

United States
Circuit Court of Appeals
For the Ninth Circuit.

Transcript of Record.
(IN THREE VOLUMES.)

COLUMBIA GRAPHOPHONE COMPANY, a
Corporation,

Appellant,

vs.

SEARCHLIGHT HORN COMPANY, a Corpora-
tion,

Appellee.

VOLUME II.
(Pages 353 to 640, Inclusive.)

Upon Appeal from the United States District Court for the
Northern District of California, Second Division.

Filed

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*F. D. McDonald,
Clerk*

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No. 2759

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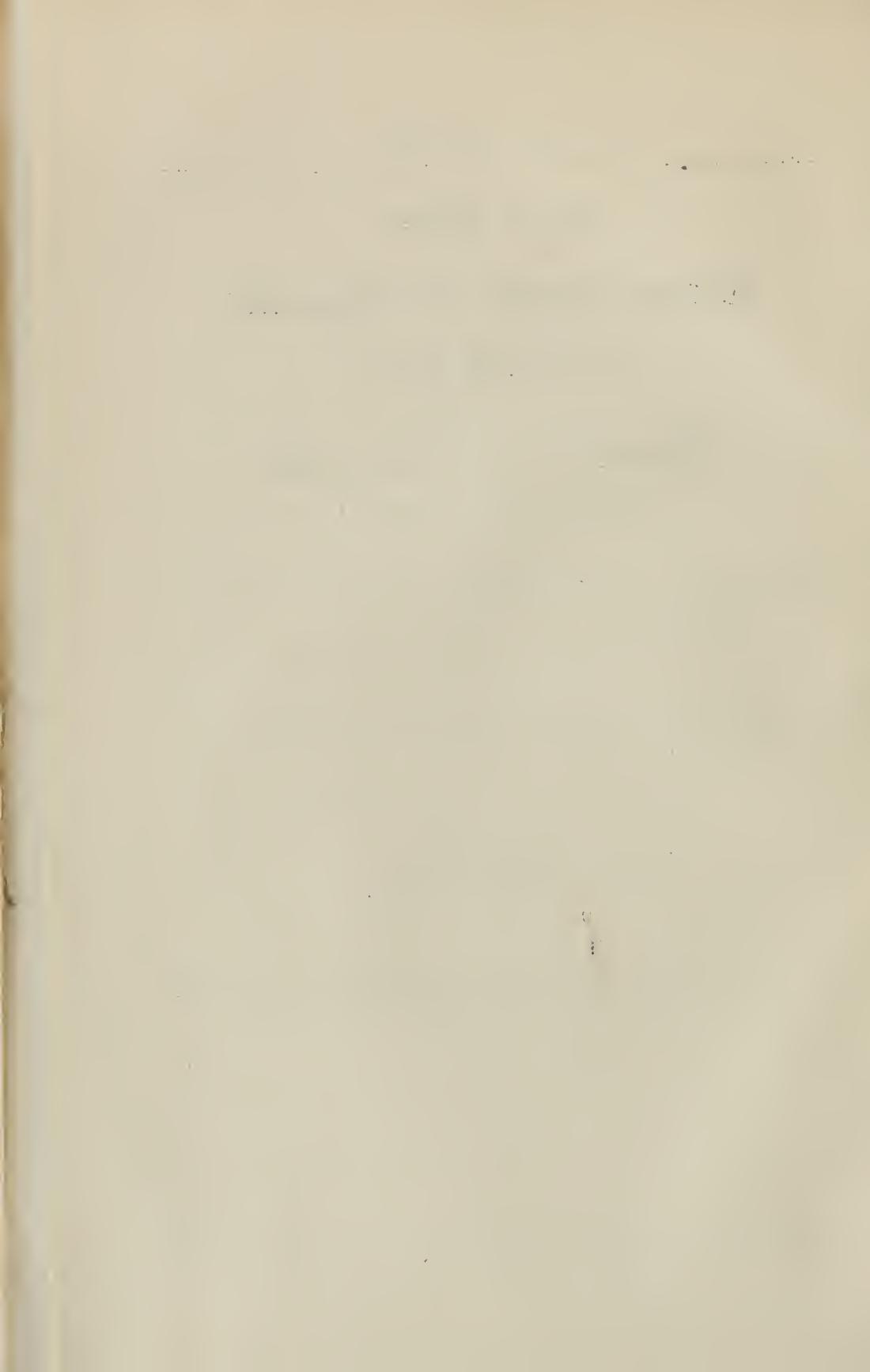
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(Deposition of Walter H. Miller.)

Q. 127. Please give the history of this horn which you have just produced, stating when and where and by whom it was used to your knowledge.

A. This horn was used in the recording room of the National Phonograph Company at Orange, New Jersey, some time prior to 1902 and has been used more or less since that time, principally for recording.

Q. 128. Is the horn adapted for reproducing as well as for recording sound and what, if any, has been its use with respect to reproducing sound?

A. This horn can be used as a reproducing horn, but it was used very little for that purpose. That is all that I can remember in regard to that particular horn.

Q. 129. Please state whether or not horns similarly made have been used for reproducing sound from a phonograph?

A. They have. The horn we sold described as the Japan horn, 26 inches long sold by Walcutt, Miller & Co., was a horn very similar to this one.

Q. 130. How do you fix the date of 1902, as the date prior to which this horn was used in the recording room of the National Phonograph Company?
[300]

A. We used these horns for recording original records before the molded record was placed upon the market, which was 1902.

Q. 131. By what individuals was this horn used at Orange, prior to 1902.

(Deposition of Walter H. Miller.)

A. By Mr. Harvey Emmons, Mr. William Hayes.

Q. 132. Did you personally have anything to do with such use by them of the horn?

A. I did. I had charge of the recording department at this time and directed how records should be taken and also assisted in all details connected with recording.

RECESS.

Q. 133. Have you had made and can you produce a photograph of the horn just produced by you as one used in the recording room of the National Phonograph Company at Orange, sometime prior to 1902?

A. Yes, sir, I have and here is the photograph.

By Mr. HICKS.—The horn just produced by the witness and the photograph thereof are offered in evidence and marked respectively "Defendant's Exhibit, Two-strip Metal Horn Used by National Phonograph Company Prior to 1902, Frank Z. Demarest, Examiner," and "Defendant's Exhibit, Photograph of Two-Strip Metal Horn Used by National Phonograph Company Prior to 1902, Frank Z. Demarest, Examiner."

Q. 134. Please compare the horn of the exhibit just offered in evidence with Fig. 2 of U. S. Patent No. 491,421, of Feb. 7, 1893 to Gersdorff.

A. These two horns are both made of metal and are constructed with the same kind of a seam, the only difference that I can see is that the Gersdorff funnel has three strips instead of two.

Q. 135. Please compare the same with respect to their shapes.

(Deposition of Walter H. Miller.)

A. The Gersdorff funnel is somewhat bell-shaped while the other horn has a gradual taper, from the small end of the large opening.

Q. 136. Does the difference between the shape of a bell and the shape of a cone indicate the difference between the two? A. It does. [301]

Q. 137. Please compare the horn shown in Fig. 14, of the French Turpin Patent and described in that patent with the horn shown and described in the Nielsen Patent in suit.

By Mr. MILLER.—Same objection as to Q. 122.

A. The Turpin Patent Fig. 14 was constructed of strips curved at their edges and bent outward as in the case of the Nielsen Patent. The shape of these strips in order to obtain this shaped horn must be similar to the strips used in the construction of the Villy horn and is shown in that patent under Figure 3. The method of fastening these strips together is the only difference which I can discover.

Mr. MILLER.—We move to strike out the answer on the ground that the description given by the witness of the horn shown in the French patent is different from the description found in the said patent and is not a correct description thereof.

By Mr. HICKS.—Defendant's counsel refers to p. 3, lines 44-103 of the French Turpin Patent to show that the statement of Mr. Miller is not correct.

Q. 138. Referring again to Fig 2 of the Gersdorff Patent No. 491,421, please state what must be the formation of the strips composing the horn or funnel shown thereby.

(Deposition of Walter H. Miller.)

By Mr. MILLER.—Same objection be interposed as to Q. 122 and also that the description of the patent is the best evidence.

By Mr. HICKS.—The Nielsen Patent in suit does not in the description thereof, define the formation of the edges of the tapering strips composing the Nielsen horn, and the same seems to be true of the Gersdorff Patent, except in so far as the descriptions of the patents are supplemented by the drawings thereof. Therefore the question is asked of the witness.

A. In order to make a funnel of this shape the strips must be of a similar shape to that described in the Villy Patent, Fig. 3.

Q. 139. I call your attention to the statement of Gersdorff Patent No. 453,798, p. 1, lines 49–53, and to the statement of the Gersdorff Patent No. 491,421, p. 1, lines 36–37, to the effect that the funnel is constructed or formed of two, three or more longitudinal [302] sections, only three sections, however, being shown in the drawing. Is there any reason why in constructing the Gersdorff funnel or horn only three such sections should be employed?

By Mr. MILLER.—Same objection as to Q. 122.

A. Not that I know of.

Q. 140. Please look at U. S. Design Patent No. 34,907 of August 6, 1901, to McVeety and Ford and U. S. Patent No. 699,928 of May 13, 1902, to McVeety & Ford for a ship's ventilator and state whether you have ever made a horn for phonographs

(Deposition of Walter H. Miller.)

similar to the ventilator shown in those two patents.

A. I have.

Q. 141. Please produce the same, if you can.

A. Here it is.

Q. 142. Please give the history of the phonograph horn produced by you in answer to the last question.

A. This was an experimental model made to be used in a cabinet. The object of the cabinet was to conceal the horn made in this shape so that it would come from the reproducer down under the phonograph. The exact date at which this horn was made I cannot say, but it was around the latter part of 1908 or 1909.

Q. 143. You seem to have employed in the construction of this horn the lap seam and several of the tapering strips with curved edges forming the larger end of the horn consist of two pieces soldered together with the lap seam. Please explain why in making this horn you employed such methods of construction.

A. The only reason I can remember just now is we did not have metal strips long enough and soldered two pieces together. The lap seam was used because when you are experimenting you do not know just what shape the strips should be and the lap seam is more convenient.

Q. 144. Is the horn which you have just produced, one adopted for the successful reproduction of sound from a sound record used upon a phonograph?

A. It is. [303]

Q. 145. Referring to the McVeety and Ford Pat-

(Deposition of Walter H. Miller.)

ents mentioned in the previous question, please state whether or not the instruments there described and shown are adapted for use as horns for phonographs and similar machines.

A. Yes, they can very easily be made to reproduce sound. The shape of this funnel is similar to the large end of the horn I have just produced.

By Mr. HICKS.—The horn and the photograph thereof just produced by the witness are offered in evidence and marked respectively “Defendant’s Exhibit, Miller’s Horn for Phonograph, Employing for its Larger End a Part Like the Ventilator of the McVeety and Ford Patents, Frank Z. Damerest, Examiner” and Defendant’s Exhibit, Photograph of Defendant’s Exhibit, Miller’s Horn for Phonograph Employing for its Larger End a Part Like the Ventilator of the McVeety and Ford Patents, Frank Z. Demarest, Examiner.”

By Mr. MILLER.—Objected to on the ground that the horn is not constructed in accordance with the McVeety and Ford Patents.

Q. 146. Did you take any part in designing the Edison Cygnet horn?

A. I did. I made the first model. I cannot tell you the exact date, but could if I referred to my notebook. It was some time in the year, 1908.

Q. 147. Have you here present the model that you made of the Edison Cygnet horn about 1908?

A. I have. Here it is.

Q. 148. It appears that this model of the Cygnet horn consists of ten tapering strips of metal hav-

(Deposition of Walter H. Miller.)

ing curved edges joined together by lap seams and that the head or small end of the model horn is not so long as it is in the Edison Cygnet horn put upon the market. Please explain why you used the lap seam in constructing the model, the lock seam being employed in the commercial article, and why the neck or small end is shorter than in the commercial article.

A. I used the lap seam in the construction of this horn for the same reason as I stated when I made the other horn. I found it more convenient. This horn was turned over to the superintendent of the company by the manager who told the superintendent to put this horn in shape for manufacturing purposes and the result of [304] his endeavors, the outcome of which is the present Cygnet horn, was placed upon the market.

Q. 149. Is this the original model of the present Cygnet horn? A. It was.

Q. 150. As a manufacturing proposition, would you have continued to use the lap seam after you had determined the proper proportions of the horn by constructing the model? A. I would not.

Q. 151. Why?

A. I would much prefer to use the lock seam in which case it would be much easier to assemble the horn which I have produced.

Q. 152. Please compare the lap seam used in the model with the butt seam of the Nielsen Patent with respect to the ease or difficulty of assembling the tapering strips composing the horn.

(Deposition of Walter H. Miller.)

A. I have never made a horn employing the seams such as used in the Nielsen Patent, or butt seam and I would prefer for ease of construction to use the lap seam in preference.

By Mr. HICKS.—The horn just produced by the witness and the photograph thereof are offered in evidence and marked respectively “Defendant’s Exhibit, Miller’s Original Model of the Edison Cygnet Horn, Frank Z. Demarest, Examiner” and “Defendant’s Exhibit Photograph of Defendant’s Exhibit, Miller’s Original Model of the Edison Cygnet Horn, Frank Z. Demarest, Examiner.”

Q. 153. Please state, if you know what was the custom or commercial practice of the National Phonograph Company in the year 1902, and prior thereto with respect to supplying horns for use with the Edison phonograph made and sold by it.

A. It was the practice of the National Phonograph Company during the period, if a phonograph was ordered from them, to supply with this phonograph, a speaking tube, a hearing tube and a small horn about fourteen inches long. These three accessories were sold as part of the phonograph. These small horns were not generally accepted by the public as the best reproducing horn and it was the custom of the dealers who handled phonographs to sell them a horn [305] and stand to hold the horn at an additional price. These horns and stands would be furnished by the National Phonograph Company if ordered specially by the dealers. But in many cases it was the custom of the dealers

(Deposition of Walter H. Miller.)

to buy this equipment from outside concerns.

Q. 154. Please state briefly the lengths and other dimensions and the material composing the horns sold by the dealers in 1902 and prior thereto at a separate price.

A. These horns were of various sizes, from twenty-four inches in length to fifty-six inches in length having an opening at the large end from one to two feet. The materials used, of which these horns were made, were brass, tin and paper.

Direct examination closed.

Cross-examination by Mr. MILLER.

XQ. 155. Please state your first connection with the phonograph business.

A. My first connection with a phonograph was some time during the year 1888, when I was assigned a position by Mr. Edison to thoroughly familiarize myself with the machine which he was then experimenting on in order that I might be perfectly capable of exhibiting same.

XQ. 156. How old were you at that time?

A. I was eighteen years old or a little over.

XQ. 157. At what place did this occur?

A. At the Edison laboratory, Orange, New Jersey.

XQ. 158. I understand that Mr. Edison was then experimenting with a phonograph. Is that correct?

A. It is.

XQ. 159. How long did you remain with him in that employment?

A. I remained on the pay-roll in the Edison laboratory until the North American Phonograph Com-

(Deposition of Walter H. Miller.)

pany went into the hands of a receiver, about September, 1894. My position with the North American Phonograph Company was to exhibit the phonograph to such people as they desired but I always drew my salary in the laboratory. [306] I presume that Mr. Edison billed them for my services.

XQ. 160. Was the North American Phonograph Company an Edison Company?

A. As far as I know it was not.

XQ. 161. What phonographs did that company handle?

A. It was a company formed to handle the Edison phonograph and the talking machine called the graphophone.

XQ. 162. Now give me the exact year you were with that company?

A. I said in my previous testimony I believe as near as I can remember it was some time in the year 1888, or it may have been a year later.

XQ. 163. Your first connection in that line was with the National Phonograph Company which was handling an Edison phonograph and it was not Mr. Edison, personally. Is that so?

A. My first connection in handling the Edison phonograph was with Mr. Edison personally and under his direction.

XQ. 164. And that was in 1888 or thereabouts?

A. It was.

XQ. 165. How long did you remain in that personal relationship with Mr. Edison and where did you go after that personal relationship ceased? I

(Deposition of Walter H. Miller.)

am merely trying to get a connected statement of your experience in the business.

A. After I was transferred to the North American for exhibiting the phonographs I was constantly in personal relationship with Mr. Edison as he was always interested in what was going on in the North American Company.

XQ. 166. Now, when were you transferred to the North American Company?

A. I should say, as near as I can remember, some time in the latter part of 1888 or 1889.

XQ. 168. And did you stay with that company until it went into the hands of a receiver some time in 1894? A. I did.

XQ. 169. While you were with the North American Phonograph Company what reproducing device did they use in connection with a phonograph?

[307]

A. The reproduction from a phonograph was obtained at this time by means of the horn and multiple hearing tube.

XQ. 170. Describe the multiple hearing tube.

By Mr. HICKS.—Objected to as immaterial.

A. The multiple tube is an arrangement of several lengths of rubber tubing and was used to connect the reproducer of the phonograph to your ears.

XQ. 171. In answer to XQ. 169 you spoke of a horn in connection with the multiple hearing tube. Please describe that horn.

A. There were several kinds of horns used at the

(Deposition of Walter H. Miller.)

time varying from fourteen inches in length to five foot long.

XQ. 172. It is not plain from your testimony what the connection was, if any, between the horn and the multiple hearing tube. Do you mean that sometimes a horn was used and sometimes the multiple tubes? Please describe the whole thing so that it can be understood by a person reading the description.

A. I mean the reproduction of sound at this time was obtained in two ways. One way, by means of a horn and the other way by means of hearing tubes.

XQ. 173. Now, please describe the horns that were used at that time.

A. As I said in a previous answer, horns of various sizes were used at that time. As near as I can recollect the one that was most generally sold was the one which I exhibited a photo of in "Defendant's Exhibit, Photograph of Horn Showing the Condition of Horn Shown by Defendant's Exhibit, Photograph of Horn Used by the National Phonograph Company, in May, 1897, before the Small End Thereof was Cut Off."

XQ. 174. When the North American Phonograph Company went into the hands of a receiver in 1894 what business did you then go into in connection with phonographs and how long did you remain therein?
[308]

A. When the North American Phonograph Company went into the hands of a receiver the secretary of the company, Mr. Cleveland Walcutt, and two other people purchased from the receiver the record-

(Deposition of Walter H. Miller.)

ing plant of that company and organized the firm of Walcutt, Miller & Co. I remained with this concern until February, 1896.

XQ. 175. Did the North American Phonograph Company discontinue business after its assets were sold out? A. It did.

XQ. 176. What business did Walcutt, Miller & Company carry on?

A. We manufactured original phonograph records and sold phonographs and phonograph cabinets.

XQ. 178. What phonograph did that firm sell?

A. The Edison phonograph only.

XQ. 179. What horns were used in connection with that phonograph?

A. As near as I can remember, the horns which were used when we sold a phonograph outfit at that time was the horn mentioned in my answer to XQ. 173.

XQ. 180. What became of the firm of Walcutt, Miller & Company?

A. I retired from this firm in February, 1896, and after that date the firm of Walcutt, Leeds and Company continued the business.

XQ. 181. On retiring from the firm what business did you then enter?

A. I then became associated with the concern called the Phonograph Record and Supply Company, but did not stay long with this concern and resigned in March, 1897, and in May, 1897, became connected with the National Phonograph Company, Orange, New Jersey.

(Deposition of Walter H. Miller.)

XQ. 182. Since that time did you remain continuously connected with the National Phonograph Company?

A. I have and during this time the National Phonograph Company's name has been changed to Thomas A. Edison, Incorporated.

XQ. 183. When you went to work for the National Phonograph Company in 1894 what horns were the company using in connection with its machines? I mean by that what horns were being sold for use with the machines? [309]

A. At that time when a dealer ordered a phonograph it was understood that the company would supply him with a phonograph horn known as a fourteen-inch horn, a hearing tube, speaking tube, oil can and a camel's hair brush.

XQ. 184. What were those hearing and speaking tubes used for?

A. The speaking tube was used to record speech and the fourteen-inch horn was used to both record and reproduce speech. The hearing tube was furnished to anyone who wished to use them to hear the reproduction of speech.

Adjourned to Monday, September 15, 1913, at 10:30 A. M., same place.

September 15, 1913.

Met pursuant to adjournment.

Present: Counsel as before.

Mr. MILLER resumes the stand.

XQ. 185. Prior to the time when the Edison Cygnet horn was put on the market what was the stand-

(Deposition of Walter H. Miller.)

ard horn sold by the National Phonograph Company for reproducing purposes in connection with the Edison phonograph?

A. It was what I call the Edison straight horn. It was about thirty inches long and varied from fourteen to twenty inches at the bell.

XQ. 186. Do you know who designed that horn for the National Phonograph Company? A. I do not.

XQ. 187. Has the National Phonograph Company sold large numbers of that horn?

By Mr. HICKS.—Objected to as immaterial.

A. I do not know.

XQ. 188. Has the National Phonograph Company sold large numbers of the Cygnet horn?

A. I do not know.

XQ. 189. Do you know what satisfaction the Edison straight horns [310] have given to the users or purchasers thereof?

A. As far as I know they have given satisfaction.

XQ. 190. Is the National Phonograph Company still marketing the straight horn?

A. I think they are.

XQ. 191. And also the Cygnet horn?

A. I think so.

XQ. 192. You spoke of having experimented with a large number of horns or rather having had to do with the designing of a large number of horns. I think you said about two hundred or more. Over what period of time did that extend?

A. I would say from the year 1888 to the present time.

(Deposition of Walter H. Miller.)

XQ. 193. Did Mr. Edison personally have anything to do with the matter of the horns?

A. He was always experimenting on the phonograph and horn.

XQ. 194. For what particular purposes did Mr. Edison make the forty-foot horn referred to by you on direct examination?

A. I do not know whether it was his intention at the time to build this horn for recording or reproducing. I know, however, he tried it for both purposes.

XQ. 195. Have you had any personal experience in the tinsmith art? A. I have.

XQ. 196. Was that your trade? A. No, sir.

XQ. 197. Did you ever serve at any place as such?

A. I worked at the bench in the machine-shop a short time.

XQ. 198. For how long a time?

A. Possibly, a year.

XQ. 199. Was that before you went to work for Mr. Edison, or after?

A. When I first went with Mr. Edison in the fall of '87.

XQ. 200. At what time were the perfected records placed on the market for use with the Edison phonograph?

A. The biggest step in the improvement in Edison records was when the molded record was placed upon the market, January, 1902. At the time this record was brought out there was brought out with it a new improved reproduced. The combination of these two

(Deposition of Walter H. Miller.)

improvements [311] in my opinion was the biggest step in the advancement of the phonograph art.

XQ. 201. Prior to that time, what records were used? Just describe the conditions of affairs in that regard.

A. The musical records placed on the market prior to this time were what we called mechanical duplicates. These records were made of a softer material than the molded records and were duplicated from original records by a mechanical process.

XQ. 202. Was it difficult to make those mechanical duplicates exactly alike?

A. It was easy enough to make the mechanical duplicates alike, but nowhere near as good as the original records from which they were duplicated.

XQ. 203. How was that in regard to the molded records?

A. In the case of the molded record they were identical with the original record, and their superiority was also appreciated, due to hardness and toughness of the material of which the molded record was made.

XQ. 204. Was the molded record a product of Mr. Edison's?

A. The molded record was the product of Mr. Edison's and Mr. Aylesworth and myself.

XQ. 205. Now, you spoke of an improved reproducer which was brought out with the molded record in January, 1902. Just describe briefly how that differed from the old reproducer.

A. This improved reproducer was equipped with a button ball stylus which was the shape of the groove

(Deposition of Walter H. Miller.)

across its diameter, which was about a forty-thousandth of an inch. Its other dimension was fifteen thousandths. The shape of this button ball allowed it to get into the record groove much more aptly than the old time round ball. The reproducer weight was also made heavier. If a reproducer of this kind were used on the old-style, mechanically cut records they would wear out very quickly. This reproducer also had a buildup [312] mica diaphragm.

XQ. 206. I judge from what you say in this regard that January, 1902, practically marked the beginning of the commercial success of the modern phonograph and that was due principally to the molded record and the new reproducer, which you have already described. Am I correct in this assumption?

A. I might state in answer to this that the largest number of records made in a day by the old mechanical process was about fifteen thousand. Some time after the molded record was on the market our output increased to a hundred thousand a day.

XQ. 207. Is it a characteristic of Mr. Edison to be very careful and particular with regard to producing perfection, or as near perfection as possible, in all the various parts of his phonograph? A. It is.

XQ. 208. My understanding is that it is his desire or aim when he takes up a problem never to stop short of perfection or practical perfection. Is that a characteristic of the man?

A. My observations have been that he has always done the best he could in developing his inventions.

XQ. 209. From the fact that a horn may be a good

(Deposition of Walter H. Miller.)

horn for recording purposes does it necessarily follow that that horn is equally good for reproducing purposes? A. No, it does not.

XQ. 210. Can you tell me why that is?

A. Every reproducing horn can be used as a recording horn. But usually in reproducing a large horn is preferable. If too large a horn is used for recording it will, under certain condition, utter more sound than the recorder can take care of, that is to say, the recorder will be too sensitive.

XQ. 211. In using the horn for recording, does the person speak or sing into the large end of the horn?

A. He does.

XQ. 212. Is that sound which is so injected into the large end of the horn then recorded in the wax cylinder? A. It is. [313]

XQ. 213. In your use of horns which you have spoken of on direct examination, have you had more to do with their use as recording horns than as reproducing horns?

A. I would say that I have made more recording horns or made them with a view to using them as recording horns, but since in the process of recording it is also important to use a reproducing horn. I have always been interested in the use of the best reproducing horn.

XQ. 214. What horn is used at the present time in the Edison laboratory for recording purposes?

A. We use about eight to ten different styles of horns. For most of our vocal work we use a horn about thirty inches long, which varies from five

(Deposition of Walter H. Miller.)

to eight inches at the bell and for our band work we use horns which vary from eight inches to eighteen inches.

XQ. 215. Why do you use a smaller horn for vocal than for instrumental music in making up records?

A. Because the results obtained are much better.

XQ. 216. To what is that due?

A. I have always attributed it to the fact that the resonance of the larger horns is much lower than of the horns we are now using for our vocal work.

XQ. 217. You have several times spoken of the use of horns by the National Phonograph Company. Did you refer to the use in the laboratory?

A. I did.

XQ. 218. Was the laboratory where these horns were so used open generally to the public, that is to say to anyone who wanted to go in there and look at things?

A. Our laboratory was always open to dealers or those interested in this particular line.

XQ. 219. But otherwise, I presume it was kept more or less secret. Is that true? [314]

A. Nothing in the use of horns, that I can remember, was thought to be a trade secret. At our laboratory at Orange all our horns of various descriptions were kept on a long table about two hundred feet long, *aside* of the passageway which was used as entrances to our recording rooms.

XQ. 220. On direct examination you spoke of a Mr. Atz and Mr. Edward Meecker. Are those gentlemen still in the employ of Thomas A. Edison, Incor-

(Deposition of Walter H. Miller.)

porated? A. Mr. Meecker is. Mr. Atz is not.

XQ. 221. What has become of Mr. Atz?

A. I do not know, but I think he is still living and could be found, if required.

XQ. 222. What are his initials?

A. I do not remember, but I think his first name was Louis.

XQ. 223. You also spoke of Mr. Harvey Emmons. Is he still in the employ of Mr. Edison?

A. He is.

XQ. 224. You have referred to the French patent of Turpin, No. 318,742, of February 17, 1902. Have you read the specification of that patent in its entirety? A. I have not.

XQ. 225. From what source did you derive the information regarding that patent, which you gave on your direct examination? A. From Mr. Hicks.

XQ. 226. Do you read French? A. I do not.

XQ. 227. You referred on your direct examination to a Mr. William Hayes. Is he still in the employ of the company?

A. He has now charge of our London recording department.

XQ. 228. Are you familiar with the publication of Mr. George E. Tewksbury, of the Edison phonograph which was referred to on the motion for preliminary injunction by Mr. Hicks and from which certain extracts were used? A. I am not.

XQ. 229. Did you ever read that publication?

A. I might have seen it at some time.

XQ. 230. But I understand that you do not now

(Deposition of Walter H. Miller.)

recall the fact. Is that correct? A. It is. [315]

Cross-examination closed.

RECESS.

Redirect Examination by Mr. HICKS.

RDQ. 231. Since recess have you read the complete translation of the French Turpin Patent No. 318,742 of February 17, 1902, in connection with the drawings forming part of the printed Patent Office copy of said patent? A. I have.

RDQ. 232. Please produce the translation and the printed Patent Office copy of said French Patent to Turpin referred to in the preceding question and answer. A. Here it is.

By Mr. HICKS.—The patent and translation thereof just produced by witness are offered in evidence and marked "Defendant's Exhibit, French Patent No. 318,742 of Feb. 17, 1902, to Turpin and translation Thereof, Frank Z. Demarest, Examiner."

The correctness of the translation will hereafter be proved unless upon examination, complainant's counsel will consent to the correctness of the translation subject, however, to the correction of any error that may appear therein.

By Mr. MILLER.—Complainant's counsel reserves the right to object.

RDQ. 233. Now, that you have read the full translation of the French Turpin Patent in connection with the drawings thereof, do you find any reason for changing or modifying your testimony heretofore given with respect to the French Turpin Patent?

A. I do not.

(Deposition of Walter H. Miller.)

RDQ. 234. Please refer to the funnel made of one piece of sheet material at the small end of the Edison straight metal horn and at the small end of the horn shown in Fig. 5 of the Villy United States and British Patents heretofore referred to and state what is the capability thereof for the reproduction of sound from a phonograph record, the flaring or large ends of the horns having been removed.

A. When the flares are removed from both of these horns they still will reproduce sound.

RDQ. 235. Upon your cross-examination reference was made to Mr. Edison's experiments with regard to the phonograph in 1888. Do you [316] know whether Mr. Edison is experimenting with regard to the phonograph to-day? A. He is.

RDQ. 236. And what is true of the time between 1888 and to-day with regard to the experiments by Mr. Edison upon the phonograph?

A. He has always been more or less to this day experimenting on the phonograph. In fact, for the last year and a half he has devoted most all of his time to that work.

RDQ. 237. Excepting the horn forty feet long made by Mr. Edison in 1888 or 1889, have you known of Mr. Edison devoting his attention during his experiments to horns for phonographs from that date down to the present day?

A. I have not, except about a year ago I saw him experimenting on a horn for a cabinet machine, but this was more an experiment of suspending a horn so that it would feed automatically.

(Deposition of Walter H. Miller.)

RDQ. 238. Do you mean that the reproducing point was to be carried by the small end of the horn and then fed by a feed-screw mechanism across the surface of a disc-sound record? A. I do.

RDQ. 239. Do you know whether Mr. Edison has obtained in the United States patents relating to the phonograph? A. Yes.

RDQ. 240. Has he obtained a large number of such patents? A. He has.

RDQ. 241. Do any of Mr. Edison's patents relating to the phonograph cover a horn for the phonograph?

By Mr. MILLER.—Objected to as incompetent and not the best evidence.

By Mr. HICKS.—If the witness knows of any such patent, the patent itself will be produced.

A. None that I know of unless he has recently obtained a patent on the feeding device for a horn.

RDQ. 242. Upon your cross-examination reference was made to hearing tubes used in connection with the phonograph in the early days. Please state whether hearing tubes are used today in connection with the phonograph. A. They are.

RDQ. 243. For what purpose are the hearing tubes used to-day? [317]

A. Principally for the reproduction of speech, and especially where the phonographs are used for dictating purposes.

RDQ. 244. For what purpose were the hearing tubes in the early days referred to on your cross-examination?

A. They were used for the same purpose.

(Deposition of Walter H. Miller.)

RDQ. 245. When the North American Phonograph Company was organized in 1888 to exploit the phonograph and the graphophone, what was the field of use then contemplated for these two instruments?

A. For dictating purposes only.

RDQ. 246. Do you mean that the phonograph and graphophone were to take the place of stenographers and other writers? A. They were.

RDQ. 247. Was any other use of the phonograph or graphophone then contemplated?

A. None, to my knowledge.

RDQ. 248. About when did these instruments begin to go into use for amusement purposes?

A. Shortly before or about the time the National Phonograph Company was organized.

RDQ. 249. Upon your cross-examination you were questioned with regard to the time when commercial success was obtained in the phonograph business and you stated that the number of records made increased when the molded record was put upon the market in January, 1902. Can you give a more definite statement of the number of cylindrical sound records manufactured by the National Phonograph Company before and after 1902?

A. The year ending February 28, 1908, the National sold 87,690 records. The year ending February 28, 1899, 428,310 records. The year ending February 28, 1900, 1,886,137. The year ending February 28, 1901, 2,080,132. The year ending February 28, 1902, 1,976,645. The year ending February 28, 1903, 4,382,802. The year ending February 28, 1904, 7,663,142.

(Deposition of Walter H. Miller.)

RDQ. 250. Does the successor of the National Phonograph Co., Thomas A. Edison, Inc., manufacture to-day as many sound records as the [318] National Company made and sold in 1904?

A. They do not.

RDQ. 251. What have you to say with regard to the possibility of using a horn for the reproduction of sound from phonograph records made during the time when the North American Phonograph Company was in business and thereafter, for such period of time as the same conditions may have continued?

A. In the early days of the phonograph business it was very difficult to get a loud record and horns would not reproduce them satisfactorily, and hearing tubes were used for the purpose.

RDQ. 252. How long a time did this condition of the phonograph record continue, so that reproduction of sound from the records by means of a horn was unsatisfactory?

A. The change from the use of the hearing tube to the horn was a gradual one and as near as I can remember started from a period of about 1895, till I might say, the present day as hearing tubes are still in use.

RDQ. 253. If the horns that were used for the reproduction of sound from a phonograph record during the time when the North American Phonograph Company was in business were used to-day with a phonograph record such as has been made since the year 1900, say, what would be the kind of sound reproduction obtained with such horns?

(Deposition of Walter H. Miller.)

A. We would get a good reproduction.

RDQ. 254. Can you produce any of the catalogues put out by the National Phonograph Company about the years 1899 and 1900, showing the policy of the National Company with regard to the supplying to the public of horns to be used with the phonographs?

By Mr. MILLER.—That is objected to as incompetent.

A. I can; here they are.

RDQ. 255. Please state the dates of the two catalogues which you have just produced and the form numbers thereof.

A. One is form No. 78, dated November 1, 1899; the other is form [319] No. 121, dated April, 1900.

RDQ. 256. Were these two catalogues issued by the National Phonograph Company at the dates mentioned? A. They were.

RDQ. 257. To whom were these catalogues principally supplied by the National Phonograph Company? A. To their dealers and jobbers.

By. Mr. HICKS.—The two catalogues produced by witness are offered in evidence and marked respectively in this suit, "Defendant's Exhibit, Catalogue of National Phonograph Co. Form No. 78, November 1, 1899, Frank Z. Demarest, Examiner," and "Defendant's Exhibit Catalogue of National Phonograph Co., Form No. 121, April, 1900, Frank Z. Demarest, Examiner."

RDQ. 258. Please refer to the two catalogues just produced and state briefly the kind of horns for phonographs shown therein and the policy of the Na-

(Deposition of Walter H. Miller.)

tional Phonograph Co. with regard to supplying horns set forth therein.

A. According to catalogue, form 121, April, 1900, the National Phonograph Company had in stock to supply its dealers a fourteen inch horn, eighteen inch horn, twenty-four inch horn, thirty inch horn, a thirty-six inch horn, forty-two inch horn, a forty-eight inch horn, a fifty-six inch horn. All these different types of horns are under a heading "Hammered Brass horn with spun bell." Under the heading of Japanese tin horns they have a ten inch horn, a fourteen inch horn, a twenty-six inch horn and a fifty-six inch horn. The catalogue states that the fifty-six inch horn is intended for exhibition purposes. It has a twenty-two inch bell and is collapsible. The three sections nest in a space twenty-two by twenty-two by twenty. Catalogue also states we sell a special tin recording horn for five dollars. All this data can be found on p. 41. In the other catalogue, form No. 78, dated November 1st, 1899, under a heading "Hammered Brass Horns with Spun Bells" they have listed a fourteen inch horn, eighteen inch horn, twenty-four inch horn, thirty inch horn, thirty-six inch horn, forty-two inch horn, forty-eight inch horn and a fifty-six inch horn. Under a heading [320] "Japanese Tin horns" they have listed a twenty-six inch horn and a fifty-six inch horn. There is also a note which says the fifty-six horn is intended for exhibition purposes. It has a bell twenty-two inches in diameter, is collapsible. The three sections nest into a space twenty-two by twenty-two by twenty

(Deposition of Walter H. Miller.)

inches. This information is on p. 33. As I said in one of my former answers that if a dealer ordered a phonograph it was understood that he would only receive a speaking tube, oil can, brush, small horn and hearing tube, but that the company had the policy of selling what was called outfits. These outfits contained different equipment for the machine according to the price. Of course the more equipment to the outfit, the more expensive it was according to the number of records in the outfit, the size of the horn and the number of blank records as well as other equipments furnished. These outfits are published in form No. 78 dated November 1st, 1899, on p. 9, p. 13, p. 14, p. 16, p. 17, p. 22, p. 23. The catalogue also shows a model of the Edison concerns machine on p. 19. It seems in this case the policy of the company was to include the twenty-four inch horn as part of the phonograph, as it says, on the foot of the page "Every Edison concert phonograph includes, free of charge, an automatic reproducer, a recorder, a sapphire shaving knife, oak-body box and cover, a twenty-four inch brass horn and stand, winding crank, speaking-tube, oil can and chip brush."

RDQ. 259. Throughout these two catalogues there are illustrations of phonographs and phonograph parts including horns, are there not? A. There are.

RDQ. 260. Please look at the cover of the catalogue, form No. 121, of April, 1900, and state what material the bell-shaped horn shown on the front and back of the cover is made.

(Deposition of Walter H. Miller.)

A. They are made of brass.

RDQ. 261. Did you know of the firm Hawthorne & Sheble in Philadelphia?

A. I have heard of them.

RDQ. 262. Do you know Mr. Hawthorne or Mr. Sheble of that firm? [321] A. I do.

RDQ. 263. In what business was the firm of Hawthorne & Sheble up to the year 1900 and where?

By Mr. MILLER.—This question is objected to as not being proper redirect examination and I ask that the objection be interposed to all questions regarding the subject matter without further repetition.

By Mr. HICKS.—Defendant's counsel on cross-examination of the witness brought out only the fact that the National Phonograph Company used and sold only a very small horn as a part of the phonograph. It is the purpose of the present redirect examination to show that in addition the National Phonograph Company and other manufacturers were supplying the dealers and to the public many different kinds of larger horns for phonographs.

A. They were manufacturers of horns of various styles and sizes at Philadelphia.

RDQ. 264. Can you state when the National Phonograph Company had accumulated a sufficient stock of the new molded records to put the same on the market and what the extent of the stock then was?

A. The new molded record was placed on the market about January, 1902. At that time we had over five hundred selections recorded and over 122,000 molded records in stock.

(Deposition of Walter H. Miller.)

RDQ. 265. Referring to Defendant's Exhibit, papier-maché horn used by Walter H. Miller, before March, 1904, which bears a label having printed thereon "Crane Bros. Westfield, Mass.," please state how such horns came into the possession of the National Phonograph Company two or three years previous to the removal of its laboratory, the removal of the laboratory having taken place in 1904, as stated in your answer to Q. 107.

By Mr. MILLER.—Objected to as not redirect examination.

By Mr. HICKS.—On cross-examination defendant's counsel attempted to show that there was some secret about horns used in the National Phonograph Company.

A. The first horn of this kind was sent to our recording rooms by some of the officials of the company, just who I do not remember. [322] After using this horn and trying it out, I instructed the purchasing agent to secure some more for me. I do not know who made these horns but heard at the time they were made by some concern in Connecticut or Massachusetts.

RDQ. 266. Did the purchasing agent comply with your instructions? A. He did.

RDQ. 267. Have you still any other samples of horns like the one offered in evidence?

A. We have.

RDQ. 268. Are they of the same size or of different sizes?

A. They are the same as the ones shown.

(Deposition of Walter H. Miller.)

RDQ. 269. Have you any horn like the Mega horn or Kaiser horn that has been offered in evidence. And if so, are they of the same size or of different sizes?

A. We have megaphones in our laboratory of a larger size and I think we have a model of about the same size as this one. It may be a shade smaller.

RDQ. 270. Referring to defendant's exhibit, two-strip metal horn used by National Phonograph Company, prior to 1902, please state how that horn came into the possession of the National Phonograph Company, and by whom was it made?

A. That horn was ordered made by the National Phonograph Company and was manufactured by the Tea Tray Company.

RDQ. 271. When the order was given to the Tea Tray Company what were the directions given by the National Phonograph Company?

By Mr. MILLER.—Objected to as incompetent, irrelevant and immaterial and not the best evidence.

A. It was customary in ordering horns from this company to give them the length of the horns required and the diameter, to tell them the material which we wanted the horns made of and the thickness of this material.

RDQ. 272. How did it happen that the Tea Tray Company made these horns of two tapering strips of metal extending from one end of the horn [323] to the other and joined together at their edges by lock seams so made that the thickness of the ribs formed by the seams is on the outside and not in the

(Deposition of Walter H. Miller.)
inside of the horn.

By Mr. MILLER.—Same objection.

A. I do not know.

RDQ. 273. Was the Tea Tray Company instructed to construct the horn in that manner.

By Mr. MILLER.—Same objection.

A. They were not.

RDQ. 274. Of what material are the Edison straight horn and the Edison Cygnet horn made?

A. Of tin. There is also a model of the Cygnet horn made of wood and tin. The straight horns are made of tin.

RDQ. 275. What part of the Edison Cygnet horn is made of tin, and what part is made of wood when tin and wood are used to construct the Cygnet horn?

A. The body part of the horn is made of tin and the flare or bell shape is made of wood.

RDQ. 276. Has the Edison straight horn ever been made of wood?

A. There is a horn of a very similar shape made of wood. I do not recollect the name of it at the present time.

RDQ. 277. Describe how this horn of wood, that is similar to the Edison straight horn, is made.

A. It is made of tapering strips of wood slightly curved at their edges and bent outward. The edges of these tapering strips of wood are held together by small strips of wood glued on the inside of the horn.

RDQ. 278. Do you mean bent outward at the large end? A. I do.

(Deposition of Walter H. Miller.)

RDQ. 279. Is this a horn dealt in by Thomas A. Edison, Inc.?

A. I do not remember ever selling this type of horn.

RDQ. 280. Does the Victor Talking Machine Company handle such a type of horn?

A. Not that I know of. [324]

RDQ. 281. Has the National Phonograph Company or Thomas A. Edison, Inc. ever engaged in the manufacture of horns for phonographs?

A. Not that I know of, except that they are now making some special shaped horns which are used in hornless cabinets which are becoming popular.

RDQ. 282. Has there been any recent change in talking machines which affects the use of the reproducing horns theretofore used?

A. There has. The public are beginning to discard the usual horns that had been in use and are calling for concealed horns.

RDQ. 283. How many manufacturers of talking machines are there in the United States to-day?

A. Three, possibly four. The Edison, the Victor, the Columbia and I do not know whether the United States Phonograph Company is still in existence.

RDQ. 284. About when did the Victor Talking Machine Company begin the manufacture of talking machines? A. That I do not know.

RDQ. 285. When did Thomas A. Edison, Inc., begin to make disc records?

A. Thomas A. Edison, Incorporated, has been experimenting with this talking machine for the last

(Deposition of Walter H. Miller.)

three years. They have not been out on the market, to my knowledge, over a year.

RDQ. 286. Is the Edison disc machine an improvement or not over the Edison cylindrical machine?

By Mr. MILLER.—Objected to as incompetent, irrelevant and immaterial and not redirect examination.

A. It is an improvement.

RDQ. 287. Has the Edison disc talking machine ever employed any horn other than the one concealed in a cabinet? A. They have not.

RDQ. 288. Has the Edison disc record involved any change in the material of the record?

By Mr. MILLER.—Same objection.

A. It has.

RDQ. 289. Has it involved any change in the reproducing apparatus? [325]

By Mr. MILLER.—Same objection.

A. It has not.

RDQ. 290. Has it introduced any change in the material of which the reproducing stylus is made?

A. The reproducing stylus used on the disc machine is made of diamond while the reproducing point used to reproduce the molded record is made of sapphire.

RDQ. 291. What is the cause of this change from the sapphire to the diamond.

By Mr. MILLER.—Same objection.

A. It was found that the heavy weight used on the reproducer causing the point to bear harder on the record would wear sapphire and therefore diamond

(Deposition of Walter H. Miller.)

was adopted. But recently Mr. Edison has placed upon the market a new cylinder record called the Blue Amberol which is made of much tougher and harder material than the former molded record. It was then found that the reproduction could be much improved by the use of a heavy weight and the diamond point has been adopted for the cylinder record as well as for the disc.

RDQ. 292. Is the Blue Amberol Edison record made in the cylindrical form or is it also made in the disc form?

A. It is made in the cylindrical form only.

RDQ. 293. Has there been any recent change in the number of threads per inch of the record grooves and if so, what is the change and has it been applied to the disc as well as to the cylindrical record?

A. Since 1908 the company has adopted the form of records whose grooves are finer than has ever been placed on the market before in order that the record would have a larger capacity. The new disc record that has been placed upon the market has a feed of 150 threads to the inch. The present blue amberol of to-day has 400 threads to the inch and the old style record 200 threads to the inch.

Redirect examination closed.

Deposition closed. [326]

Adjourned to Tuesday, September 16, at 10:30
A. M., same place.

September 16, 1913.

Met pursuant to adjournment.

Present: Counsel as before.

[Deposition of Harvey Nesbitt Emmons, for
Defendant.]

HARVEY NESBITT EMMONS, being duly sworn, as a witness on behalf of defendant, testifies as follows:

Direct Examination by Mr. HICKS.

Q. 1. Please state your name, age, residence and occupation.

A. Harvey Nesbitt Emmons, age 37, 158 North 15th St., East Orange, N. J.; professional record maker.

Q. 2. By whom are you employed?

A. By Thomas A. Edison, Incorporated.

Q. 3. When did you enter the employ of Thomas A. Edison, Inc., or the National Phonograph Company? A. October the 8th, 1897.

Q. 4. Have you been continuously employed by the National Phonograph Company or Thomas A. Edison, Inc., since October 8, 1897? A. Yes, sir.

Q. 5. Do you know Walter H. Miller?

A. Yes, sir.

Q. 6. Has your work been in any way connected with Mr. Miller since October 8, 1897?

A. Yes, sir.

Q. 7. Please state what that connection has been.

A. I have been Mr. Miller's assistant in recording master records.

Q. 8. Please look at the horn which I now show you and which has been marked in evidence "Defendant's Exhibit, Two-strip Metal Horn," etc., and state what, if anything, you know about this horn.

(Deposition of Harvey Nesbitt Emmons.)

A. That horn was used in the latter part of 1897 or the early part of 1898.

Q. 9. Where was it used?

A. It was used at the Edison recording laboratory at West Orange, New Jersey.

Q. 10. Was that the laboratory of any company?

A. At that time it was the laboratory of the National Phonograph Company. [327]

Q. 11. By whom was this two-strip metal horn used in the latter part of 1897 or the early part of 1898?

A. It was used both by Mr. Miller and myself.

Q. 12. For what purpose? A. For recording.

Q. 13. Please state whether this two-strip metal horn is adapted for reproducing sound from a phonograph record.

A. It could be used for reproducing as well as recording.

Q. 14. Please look at this other horn which I now show you and which has been offered in evidence and marked "Defendant's Exhibit, papier-maché horn," etc., and state what you know about this horn.

A. We used that horn both for reproducing and recording at the laboratory.

Q. 15. Where?

A. At the laboratory at West Orange.

Q. 16. The laboratory of the National Phonograph Company? A. Yes, sir.

Q. 17. At what time?

A. I would say the first time the laboratory used this horn was in the year 1898.

Q. 18. Who used this horn at the laboratory of the

(Deposition of Harvey Nesbitt Emmons.)

National Phonograph Company at Orange, in the year 1898?

A. Mr. Miller and myself used that horn in the recording department.

Q. 19. Please state in what manner this papier-maché horn was used in reproducing.

A. It was hung from a crane with a tube on the end to connect with the reproducer.

Q. 20. What sound records did you reproduce by the aid of this horn and for what purpose?

A. The master records made in the recording laboratory, reproducing the master records that we made in the laboratory.

Q. 21. Why did you reproduce sound from the master records made in the laboratory by the aid of this horn?

A. We reproduced the records to get a balance between the numerous instruments that were used in the recording. By this I mean that [328] one instrument should not be louder than any other instrument used in the different combinations which we made records of.

Q. 22. When you used this papier-maché horn to reproduce the sound recorded on the master record, the only effect was to reproduce the sounds as recorded, is this correct? A. Yes, sir.

Q. 23. And do you mean that in such reproductions of sound from the master records you were enabled to determine whether in the recording of the master record a proper balance of the instruments used for producing the sounds recorded has been employed?

(Deposition of Harvey Nesbitt Emmons.)

By Mr. MILLER.—That question is objected to as leading.

By Mr. HICKS.—In view of the objection the question is withdrawn. The purpose of defendant's counsel was to save time.

Q. 24. I do not understand what you mean when you say that this papier-maché horn was used to reproduce the master records to get a balance between the numerous instruments that were used in the recording. Please make this clear.

A. For instance, if we were recording a band, which had anywhere from eighteen to twenty-one instruments we would have to get a perfect balance between the cornets, trombones, clarinets and other instruments that the band was composed of.

Q. 25. In reproducing sound from the master record you could not change the balance of the recorded sounds, could you?

A. No, sir. Not after the record had been once recorded.

Q. 26. Did you use this horn then to ascertain whether the balance of the instruments used for the recorded record had been a proper balance?

A. We called these test records until we got the proper balance and then we would make what we call a master.

Q. 27. As I understand the point you used this horn to test original records to ascertain whether the balance mentioned was proper and that after you had obtained the proper balance of the instruments you then proceeded to record a master record.

(Deposition of Harvey Nesbitt Emmons.)

A. Yes, sir. [329]

Direct examination closed.

Cross-examination by Mr. MILLER.

XQ. 28. When you use a horn for recording purposes in the laboratory in making records how do you use it?

A. We have various combinations of one horn, two horns, three horns, whichever the combination of recording would suit.

XQ. 29. Does the operator speak or sing or play into the big end of the horn and is the sound then carried through the small end and recorded?

A. Yes, sir.

XQ. 30. If a horn is a good one for recording, would it necessarily follow that that same horn would be good for reproducing when connected to a phonograph? A. Yes, sir.

XQ. 31. When you first went to the National Phonograph Company's laboratory in 1897, what horn or style of horn was being used for recording?

By Mr. HICKS.—Objected to as not proper cross-examination, the witness having been questioned on his direct examination solely with respect to two horns and the witness was produced merely because complainant's counsel, on the cross-examination of Mr. Miller had inquired concerning the whereabouts of Mr. Emmons.

A. We were using various horns of different diameters at the large end. The metal horn that was shown to me by Mr. Hicks was used for recording bands, banjos, brass quartets, etc.

(Deposition of Harvey Nesbitt Emmons.)

XQ. 32. Is it usual in making records to use different styles of horn according to the different species of sound you desire to record or to illustrate, do you use the same horn for recording a vocal solo as you do for recording a band concert of numerous pieces?

A. At certain times the same horn could be used according to the temperature of the room or weather. We do use the same horn at times for recording.

XQ. 33. Is it the general custom, however, to use different horns in the two cases stated?

A. I would not say it was the general custom but we do vary the horns on different selections. [330]

XQ. 34. In recording what is the object of having the horns of different diameters at the large end?

A. We use them more for focusing combinations of larger or smaller number.

XQ. 35. What is the largest diameter horn used for recording in the Edison laboratory?

A. Fifty-six inch.

XQ. 36. Do you know who made this papier-maché horn which was shown you by Mr. Hicks?

A. No, sir, I do not.

XQ. 37. Do you know when you first saw this horn?

A. In the latter part of 1897 or the early part of 1898.

XQ. 38. Is that horn being used at present for recording purposes in your laboratory?

(Deposition of Harvey Nesbitt Emmons.)

A. We have not used that horn in the last six months.

XQ. 39. What horns are now used in the laboratory for recording?

A. I use various size horns at the bell.

XQ. 40. Give the variations in size, if you can.

A. From three inches in diameter to fifty-six inches.

XQ. 41. Was there more than one of these papier-maché horns in your laboratory, used for recording?

A. Yes, sir, we have used as many as thirteen for recording.

XQ. 42. Do you mean that that number of them were used at one time? A. Yes, sir.

XQ. 43. Now please, describe briefly in outline, the process of making a record of a band concert consisting of a number of different instruments.

By Mr. HICKS.—The objection made to XQ. 31 is repeated and it is to be understood that the same objection is made to all questions not directed to the matter inquired about upon the direct examination.

A. At the time we used these papier-maché horns, 1898, there were thirteen machines and the band was arranged in front of these horns according to the volume of sound each instrument had. The clarinet would be placed three to four foot away while the cornets would be back twelve foot from the horn, etc. The band would then play a [331] small part of the selection, which would be used as a test record to see if we had the proper balance. If not, they would be moved back or forward according to

(Deposition of Harvey Nesbitt Emmons.)

their balance. After these tests were all made we found that we arrived at the balance; the master records were then made.

XQ. 44. I understood you to say that at the present time you make your record in a different way from what you did in 1898. Is that correct?

A. Yes, sir.

XQ. 45. When was that change introduced in your laboratory?

A. I could not say the date or time because it gradually worked itself to a different way of working, that is, we now record with one machine whereas, in 1897 and 1898, we recorded with thirteen for a band.

XQ. 46. When you say we now record with one machine, do you mean with one horn? A. No, sir.

XQ. 47. You mean then with one recording machine? A. Yes, sir.

XQ. 48. And how many horns do you use with that one recording machine? A. From one to five.

XQ. 49. And what character of horns are they?

A. They vary in size from three inches at the bell to fifty-six inches.

XQ. 50. Of what material are those horns made?

A. Paper, brass, zinc, tin, lead, aluminum, copper.

XQ. 51. You spoke of using this papier-maché horn which is before you for testing the record after its manufacture and before the master record was made with a view to ascertaining the balance. Please explain how that attempt was made, so that we can fully understand it.

(Deposition of Harvey Nesbitt Emmons.)

A. This horn was put on a diaphragm in connection with a rubber tube. The record was put on the phonograph, the machine started and the diaphragm reproducer was let down on the record and that way we would hear the record as it was recorded. [332]

XQ. 52. Was this diaphragm you referred to the same diaphragm that was used in the phonograph itself when put out for sale?

A. The reproducer was the same at that time.

XQ. 53. What do you mean by the reproducer?

A. The reproducer had the little sapphire ball end that followed the track and would reproduce the record as it was.

XQ. 54. When you tested these records in the laboratory after they were made to see whether they were right did you have a special testing apparatus for that purpose? A. No, sir, not at that time.

XQ. 55. Do you have such special apparatus at the present time? A. Yes, sir.

XQ. 56. Are the present records which you make a great improvement over those you made in 1898?

A. Yes, sir.

XQ. 57. After you make your record at the present time, do you then test it for the balance which you refer to? A. Yes, sir.

XQ. 58. Describe how you make that test.

A. The instruments are placed in position and play a few bars which are placed on the reproducing apparatus and heard, to get the proper balance.

XQ. 59. How do you determine whether you have got the proper balance?

(Deposition of Harvey Nesbitt Emmons.)

A. By the loudness and quality of each individual instrument.

XQ. 60. What horn do you use for the reproducing in this connection so as to determine the balance?

A. They use a Cygnet horn for reproducing.

XQ. 61. When did the company cease using the papier-maché horns before you for reproducing?

A. That I could not say.

XQ. 62. Do you think this papier-maché horn when attached to one of the other phonographs in actual use would be a good horn for reproducing at the present time? A. Yes, sir.

XQ. 63. Do you think it is as good a horn in that respect as the Edison Cygnet horn? A. No, sir.

XQ. 64. Do you think it as good a horn in that respect as the Edison straight horn? A. Yes, sir.

[333]

XQ. 65. Do you think it as good a horn in that respect as the two-strip metal horn which was shown you by Mr. Hicks?

A. I would say it would be just as good. I have never compared these two horns side by side.

XQ. 66. Are you acquainted with the old B. & G. horn having a conical body and a flaring brass bell, used years ago with phonographs? A. Yes, sir.

XQ. 67. Do you think this papier-maché horn is as good a horn for reproducing as the old B. & G. horn referred to? A. Yes, sir.

XQ. 68. Do you think the old B. & G. horn referred to is as good a horn for reproducing as the

(Deposition of Harvey Nesbitt Emmons.)

Edison straight horns? And by the Edison straight horn I mean the horn shown on pp. 18 and 19 of the Edison catalogue of cylinder models from 1912 and 1913, which I now show you.

A. I think that is all a matter of taste.

XQ. 69. Please explain what you mean by a matter of taste.

A. The Edison Cygnet horn when you compare it will be fuller than the Edison straight horn and some people would like or prefer the Cygnet horn to the straight horn.

XQ. 70. My question related, not to the Cygnet horn, but to the Edison straight horn as compared with the old B. & G. horn of which Mr. Hicks showed you a cut. Now please compare those two horns and give me your opinion as to which of those is the better horn if there is any difference in their reproducing properties.

A. I have never made a comparison of these two horns so could not say.

XQ. 71. I am only asking your opinion as a person familiar with this art.

A. I would prefer the Edison straight horn.

XQ. 72. Will you please give any reason you may have for that preference? A. Looks.

XQ. 73. Have you made any test of the reproducing qualities of the Edison Cygnet horn with any other horn?

A. We have tested the Edison straight horn and the Cygnet horn. [334]

XQ. 74. Please describe how you made those tests.

(Deposition of Harvey Nesbitt Emmons.)

A. By taking a record and placing it on the machine, first putting one horn on hearing a certain part of the record we would put the other horn on and hear the same part played on that horn. In that we could determine which sounded best to us.

XQ. 75. Did those tests show any difference in the results of the two horns?

A. The Edison Cygnet horn sounded the better of the two.

XQ. 76. Is the Edison Company still engaged in supplying the Edison straight horns for some of its phonographs?

By Mr. HICKS.—This line of cross-examination is entirely unwarranted and is objected to. Complainant's counsel is interrogating the witness upon matters concerning which he may not be qualified and upon matters having not even the remotest relation to the direct examination.

A. That I could not say. It is not in my department.

XQ. 77. I judge from your answer that you are specially acquainted only with matters relating to your department, which is that of making records, and that you practically know nothing about any other of the extra doings of the Edison Company. Am I correct in this?

A. Outside of what we use in the recording department, you are.

Cross-examination closed.

(Deposition of Harvey Nesbitt Emmons.)

Redirect examination by Mr. HICKS.

RDQ. 78. On cross-examination you said that the Edison Cygnet horn is used to-day to test sound records. What kind of records is that Cygnet horn used to test? A. In my answer, master records.

RDQ. 79. I refer to the shape or form of the record. Is the Cygnet horn used to test disc or cylindrical records, please state the facts in this regard.

A. The Cygnet horn is used for testing cylinder records, master records. It is not used at the present time for testing the disc records. [335]

RDQ. 80. Was the Cygnet horn ever used to test disc records? A. Not to my knowledge.

RDQ. 81. Was any horn used by the Edison Company to test disc records?

A. Yes, sir, we used the Edison straight horn.

RDQ. 82. Why has the Edison straight horn been used to test disc records instead of the Edison Cygnet horns?

A. There was no particular reason for using this horn only it was convenient for taking off and putting on our testing machine.

RDQ. 83. Has any apparatus been devised whereby the Edison Cygnet horn with its curved swan-like neck could be used for testing the flat disc record? A. Yes, sir, it could be used.

RDQ. 84. My question was whether any apparatus has been devised by the Edison Company, by the aid of which the Edison Cygnet horn can be so used?

A. We did have an apparatus, a special machine,

(Deposition of Harvey Nesbitt Emmons.)

which could be used for testing master records with the Cygnet horn.

RDQ. 85. Why did you not use that special apparatus for the Cygnet horn instead of using the straight horn to reproduce sound from the disc record?

A. The way our machine was situated in our test room we found that the Edison straight horn was more convenient for use at that time.

Redirect examination closed.

Deposition closed.

RECESS.

HARVEY NESBITT EMMONS, being recalled as a witness on behalf of defendant, for further redirect examination, testifies as follows:

Redirect examination continued by Mr. HICKS.

RDQ. 86. Is the Edison straight horn used to-day for testing disc records made by the Edison Company? A. No, sir. [336]

RDQ. 87. When was the use of the Edison straight horn discontinued for the testing of disc records and why was it discontinued?

A. It was discontinued because Mr. Miller had a regular disc machine with a concealed horn cabinet. This seemed much more convenient for our company in the testing room.

RDQ. 88. When did Mr. Miller receive, in the recording department, the regular disc machine provided with a concealed horn in a cabinet?

A. I cannot just recall the date of it but they have been using it a year and a half or two years.

(Deposition of Harvey Nesbitt Emmons.)

RDQ. 89. When was it that the Edison Company perfected its disc machine having a horn concealed in a cabinet to such an extent that the company was in a position to supply Mr. Miller with such a machine?

A. The machine that Mr. Miller received was set in one of the old Amberola cabinets.

RDQ. 90. At the time that Mr. Miller received this machine was the Edison disc machine perfected? A. That I could not say.

RDQ. 91. Was it on the market?

A. That I could not say.

RDQ. 92. For how long a time was the disc machine set in the Amberola cabinet employed for testing the original disc sound records?

A. We had this machine between a year and a half and two years, as far as I know.

RDQ. 93. Are you still using it for testing original sound records? A. Yes, sir.

RDQ. 94. Are you using any other machine for testing original disc sound records at the present time? No, sir.

RDQ. 95. Approximately, what is the shape of the horn concealed in the Amberola cabinet?

A. It is more of an oval shape.

RDQ. 96. Like the shape of an egg?

A. On that order.

RDQ. 97. Referring to the papier-maché horn concerning which you have already testified, state whether you employed for recording [337] or reproducing any similar horn or horns, and if so, de-

(Deposition of Harvey Nesbitt Emmons.)

scribe the same and state when you employed them.

A. At the present time we are not using any horn like the one you showed me for recording or reproducing. We are using the Edison straight horn which is the nearest thing to the one you showed me.

RDQ. 98. I am referring to horns made of paper or like material.

A. No, sir, not at the present time. We have used horns like this and horns similar to the size only it was not finished. It was in rough, which were used both for recording and reproducing. In 1901, the rough paper horn was used. The horn that you show me here was used between 1897 and 1898.

RDQ. 99. Compare the shape of the rough paper horn that you used in 1901 with the shape of the papier-maché horn that you used in 1897 to 1898.

A. They were practically the same shape and size.

RDQ. 100. Compare the two horns with regard to color.

A. The rough paper horn was sort of a gray; the other horn was black, with a gold band.

RDQ. 101. Is the diaphragm that you mentioned in your testimony a part of the reproducer of the phonograph? A. Yes, sir.

Redirect examination closed.

Recross-examination by Mr. MILLER.

RXQ. 102. Have you in the laboratory now one of the rough paper horns which you say was used in 1901 in your answer to RDQ. 98?

(Deposition of Harvey Nesbitt Emmons.)

A. I don't think we have in the recording laboratory.

RXQ. 103. Is there one in the Edison laboratory.

A. Not that I know of.

Recross-examination closed.

Deposition closed. [338]

[Deposition of Edward W. Meeker, for Defendant.]

EDWARD W. MEEKER, being duly sworn as a witness on behalf of defendant, testifies as follows:

Direct examination by Mr. HICKS.

Q. 1. Please state your name, age, residence and occupation.

A. Edward W. Meecker, 39 years old, residence 58 Day Street, Orange, New Jersey, employed by the Thomas A. Edison, Inc. recording department.

Q. 2. How long have you been employed by Thomas A. Edison, Inc., or by the same company under its former name of National Phonograph Company? A. In the fall of 1897.

Q. 3. Have you been employed by that company from the fall of 1897 down to the present day?

A. I was employed from the fall of 1897 to the first day of May, 1898, when I left to go to the Spanish-American War. I was discharged from the United States service in October, 1898, re-employed by the same company in October, 1898. I have been in their employ to this present day.

Q. 4. I show you a photograph and ask you if you know anything about the horn shown in the photograph.

(Deposition of Edward W. Meeker.)

A. That is a horn I used for making announcements.

Q. 5. When did you use this horn for making announcements?

A. When I was first employed by the phonograph company in 1897.

Q. 6. Was that before you went to the Spanish-American War? A. Before and after.

Q. 7. Where did you use this horn for making announcements when employed by the National Phonograph Company in 1897 and before you went to the Spanish-American War?

A. In a little brick building opposite the Edison laboratory engine-room at Orange, New Jersey, and also in a building that they called No. 20, a large wooden building. We continued to use the same horn up to 1901 when we changed the system of recording.

Q. 8. Where did you use this horn for making announcements after your return from the Spanish-American War in October, 1898? [339]

A. In the little brick building opposite the laboratory engine room.

Q. 9. The small end of the horn appears to have been cut off. Please state why this was done.

A. The end was cut off to allow a hole sufficiently large enough to talk through so that it would throw the sound out.

Q. 10. Please explain what you mean by announcements for which you used the horn.

A. To tell the name of the selection, what was to

(Deposition of Edward W. Meeker.)

play, a band or an orchestra or a brass quartet or anything.

Q. 11. That is to say, before the band began to play or the singer began to sing you made an announcement of the piece or selection by means of this horn, so that the name of the selection and of the singer or band could be recorded on the sound record before the recording of the vocal or instrumental piece was recorded? A. Yes.

Q. 12. What has become of the horn shown in the photograph which I have just handed to you?

A. The last time I saw it was in this office.

Q. 13. Was that at the time that you verified your affidavit in this suit, on June 5, 1913? A. Yes.

Q. 14. Where do you understand that the horn is at present? A. In California.

Q. 15. Did you see that photograph at the time you last saw the horn and verified your said affidavit? A. Yes, sir.

Q. 16. Was that photograph a correct photograph of the horn at the time you last saw it?

A. Yes, sir.

Q. 17. Was there any difference in the horn when you last saw it and at the time when you last used it for making announcements? A. No, sir.

Q. 18. Did you ever use this horn for any purpose other than the making of announcements?

A. For reproducing. [340]

By Mr. HICKS.—The photograph which I have just shown to the witness is "Defendant's Exhibit, Photograph of Horn used by National Phonograph Co. in May, 1897."

(Deposition of Edward W. Meeker.)

By Mr. MILLER.—If the horn is to be produced in evidence hereafter I have no objection to the photograph; otherwise I will object to the photograph as secondary evidence.

Q. 19. I show you another photograph and ask you to state what you know about the horn shown in this other photograph.

A. This is the same kind of a horn as the other photograph only it hasn't got the end cut off.

Q. 20. Does this second photograph show the condition in which the horn of the first photograph was before its small end was cut off? A. Yes, sir.

Q. 21. State, if you know, for what purpose the horn shown in these two photographs was used in the fall of 1897.

A. Used for reproducing records.

Q. 22. Do you know how long the horn shown in these two photographs had been in use in the United States for reproducing sound from records before you began to use the horn with its small end cut off for making announcements? A. I don't know.

Q. 23. What has become of the horn shown in the second photograph? A. In California.

Q. 24. When did you last see it?

A. I saw it in your office when I made out my affidavit.

Q. 25. Did you see the photograph at the same time? A. Yes, sir.

Q. 26. Is the photograph a correct photograph of the horn? A. Yes, sir.

Q. 27. Who brought the two horns shown in the

(Deposition of Edward W. Meeker.)

two paragraphs to my office at the time you verified your said affidavit in June, 1913?

A. I think they were here when I came in.

Q. 28. Where had they been before you saw them in my office?

A. In the office at Orange, New Jersey.

By Mr. HICKS.—The second photograph shown to the witness is “Defendant’s Exhibit, Photograph of Horn Showing the Condition of the Horn Shown by Defendant’s Exhibit, Photograph of Horn used by National Phonograph Co. in May, 1897, Before the Small End Thereof was Cut Off.” [341]

By Mr. MILLER.—I make the same remark in objection regarding this photograph as was made regarding the former photograph.

Q. 29. Do you know whether the horn shown in the two photographs was upon the market in the United States in the fall of 1897?

A. That I don’t know.

Q. 30. Did you ever see them in the phonograph supply stores for sale?

A. I never paid any particular attention.

Q. 31. Do you know who manufactured such horns?

A. No, sir.

Direct examination closed.

Cross-examination by Mr. MILLER.

XQ. 32. After you ceased using this horn for making announcements in 1901, how were the announcements made thereafter?

A. Made without a megaphone.

XQ. 33. What then became of these horns shown by

(Deposition of Edward W. Meeker.)

the photographs? A. They were in the laboratory.

XQ. 34. Were they used for any purpose?

A. Well, I would use that announcement horn once in a while, standing back, hollering and announcing different sounds.

XQ. 35. Before they were brought over here and delivered to Mr. Hicks, where had they been stored?

A. They were in the recording laboratory.

XQ. 36. Was this little brick building where you made your announcements with this horn open to free access by the public?

A. I really could not answer that question; I don't know. I never saw any secret about it. I know that visitors came there. I invited guests.

XQ. 37. What position did you hold in the company at that time, when you used the horn for making announcements? A. I was announcer.

XQ. 38. What position do you now hold in the company?

A. Singing and general trap work, such as imitating animals.

XQ. 39. What animals have you imitated?

A. Dog, a monkey, a lion, cat, horse whinny, coyote. That is all I can think of now. [342]

XQ. 40. I presume you mean you imitated these sounds so that they could be recorded and a record thereof made for the purposes of reproduction?

A. Yes, sir.

Cross-examination closed.

Deposition closed.

Adjourned to Wednesday, September 17, 1913, at
11 A. M.

Sept. 17, 1913.

Met pursuant to adjournment.

Present: Counsel as before.

[Deposition of Frank H. Stewart, for Defendant.]

FRANK H. STEWART, being duly sworn as a witness on behalf of defendant, testifies as follows:

Direct Examination by Mr. HICKS.

Q. 1. Please state your name, age, residence and occupation.

A. Frank H. Stewart, age, 34 years, Philadelphia, occupation, engineer, (electrical); previously employed by Messrs. Hawthorne & Sheble as traveling salesman and in assisting in the development of ideas and various sound apparatus at their factory at Oxford and Mascher Sts., Philadelphia; previous to this, in their store at 604 Chestnut St., Philadelphia.

Q. 2. Please state what experience, if any, you have had with regard to the phonograph and similar machines and with regard to horns used therewith.

A. My employment with Hawthorne & Sheble began in 1894. When I entered the employ of Hawthorne & Sheble I was employed as errand boy. In a short while I became very much interested in the phonograph. I took up the study of the phenomenon of sound and sound-recording apparatus. At this time the machines such as we handled were operated by storage batteries, which it was my duty to look

(Deposition of Frank H. Stewart.)

after, the recharging of same, and repair the motor, diaphragms and other adjustments that would naturally come under my direction in repairing and setting up machines. I have an X-ray burn on my right hand. I mention this merely to fix a definite date. This [343] burn occurred while I was operating the Edison X-ray apparatus some time previous to July 6th, 1898, at the electrical exposition given under the direction of Prof. Samuel Marx, a building located on the south side of Chestnut St., between 8th and 9th, and as near as I recall the number of the premises at 820 Chestnut Street, Philadelphia, Pa. Previous to the injury occurring to my hand I did a great deal of experimental work with the phonograph in making sound recording and reproducing apparatus, as our firm, at that time, was one of the largest jobbers of Edison phonographs in the country. Previous to this time, I made a great many experiments which necessitated manufacturing horns, diaphragms and other apparatus and parts useful in the manufacture of phonographic records. About this time the Graphophone Grand was placed on the market by the Columbia Phonograph Company. Different shapes and kinds of horns were made at the factory of Hawthorne & Sheble and were tried out. Horns similar in nature to the horn which is now known as the flower horn were made, but were not made in any commercial quantity for the reason that they would not sell. Brass horns became the popular horn of the time. Some time during the spring of 1898, Hawthorne & Sheble made for the

(Deposition of Frank H. Stewart.)

Government Navy Department some horns; I do not know how many were made, but they were made of several sections and joined together on a long groover that we had in the factory, and were used by the Government as fog-signals. The horns were necessarily made in segments joined together at the edges, because we could not get material wide enough to make the horn in one piece and also because the ridge where the pieces were seamed together on the grooving machine added a reinforcement to the horn. Where these horns are at the present time, I do not know.

By Mr. MILLER.—I move to strike out all that portion of the answer beginning with words “about this time the Graphophone Grand was placed on the market,” etc., down to the end of the answer, on the ground that that portion is not responsive to [344] the question, is also largely a matter of hearsay testimony and constitutes a rambling dissertation on matters concerning which the witness was not interrogated and which therefore makes the matter one difficult of cross-examination. And I request counsel for defendant to instruct the witness to confine himself strictly to the questions asked and not go outside of the scope of the question in giving his answers.

By Mr. HICKS.—The answer was responsive to the question. Defendant’s counsel does not understand that complainant’s counsel can object to an answer upon the ground that it is not responsive unless the answer is to a question put by complainant’s counsel.

Q. 3. Who composed the firm of Hawthorne & Sheble?

(Deposition of Frank H. Stewart.)

A. Ellsworth A. Hawthorne and Horace Sheble.

Q. 4. During what period of time were you employed by the firm of Hawthorne & Sheble?

A. Until about 1903, I think.

Q. 5. Was any change made in the organization of the business of Hawthorne & Sheble during the period of your employment from 1894 to 1903?

A. If there was any change I did not know what the details were for the reason that I was not a member of the firm.

Q. 6. What I meant to ask more particularly was whether at any time from 1894 to 1903 the firm of Hawthorne & Sheble was incorporated.

A. I think they were incorporated. Just what the date was, I don't know.

Q. 7. Do you recollect what the name of the corporation was after the firm was incorporated?

A. I believe it was changed to the Hawthorne & Sheble Manufacturing Company.

Q. 8. What, if anything, did Hawthorne & Sheble manufacture aside from horns for phonographs?

A. The firm of Hawthorne & Sheble manufactured cabinets for phonographs, carrying-cases for records, horn-stands for supporting the horns, and a great many of the supply parts used for the repair of phonographs. [345]

Q. 9. To what extent did the firm of Hawthorne & Sheble manufacture horns for phonographs and similar machines?

A. At the time, we believed we were the largest manufacturers in the country.

(Deposition of Frank H. Stewart.)

Q. 10. How many horns for phonographs and similar machines did the firm of Hawthorne & Sheble manufacture per day?

A. I do not know exactly how many horns were made per day at the factory, but the business was always increasing by reason of the fact that we were always getting up new designs, new models, and new combinations of metals, like zinc, which we sold thousands of under the name of a Silveroid horn. We also made a large quantity of aluminum horns. These aluminum horns were joined together in segments because we could not obtain aluminum in very wide lengths and in this way the horns of aluminum were built up of several sections. The sections were joined together on the grooving-machine, because we did not know how to solder aluminum, and joining the various sections was the only practical way to manufacture a horn made of aluminum in a commercial way.

By Mr. MILLER.—I move to strike out all that portion of the answer beginning with the words "these aluminum horns were joined together in segments, etc., " down to the end of the answer on the ground that it is not responsive to the question, and is also largely a matter of argument and otherwise improper.

By Mr. HICKS.—Defendant's counsel will not question the witness further with regard to statements set forth in the answers of the witness and objected to by complainant's counsel on the ground that the answers are not responsive to the questions

(Deposition of Frank H. Stewart.)

put by defendant's counsel, for the reason that defendant's counsel understands that such objections are without foundation, the answers being relevant, material, and competent upon the issues involved in this suit.

Q. 11. Do you recollect the number of horns manufactured by the firm of Hawthorne & Sheble upon any one day?

A. I think of our style 30-16 horn which was one of the popular styles of brass horns, it was our aim to turn out 500 a day. [346]

Q. 12. And in addition to 500 horns per day of the 30-16 style horn, did the firm of Hawthorne & Sheble on the same day manufacture horns of other styles?

A. Oh, yes: We made a large quantity of the other styles. We had to, to keep up with our orders.

Q. 13. Referring to the expression "30-16 style of horn," please explain what the figures of that expression mean.

A. The figures 30-16 refer to the length and breadth of the horn, 30 meaning the length from the small end to the large end, and 16 the distance across the large end, the small end of the horn being standard for all sizes of horns of the regular style that we made. Of course, we made horns with a larger opening at the apex of the horn, which were used on phonographs equipped with the Bettini reproducer. The figures 30 mean 30 inches and 16 means 16 inches.

Q. 14. Referring to the aluminum horns which you have said were made of segments, please explain by

(Deposition of Frank H. Stewart.)

what method these segments were joined together in building up the horn.

A. In making a horn of aluminum we would take the sheets, which came in uniform lengths of about fourteen inches wide by ninety-six inches long and of the thickness that we determined was proper for the purpose and cut these strips in suitable lengths for the horn which we desired to make. They might be fourteen inches long, eighteen inches long, twenty-four inches long, thirty inches long, thirty-six inches long and forty-two inches long. These sections were cut off on what we called a straight shear. They were then cut across lengthwise, diagonally, making a triangular or pyramid-shaped figure. These strips were next run through a machine that put a curl on each side, something, I might say, like the curl of a derby hat. Two of these sections, which were properly seamed, would be joined together and then additional pieces would be joined one to another until a sufficient number of sections were made in [347] one large triangular piece. Then it would be folded over and made into a cone shape, which, of course, was the horn. On account of the aluminum being very light and thin, in the manufacture of some kinds of horns, especially on the larger sizes, we would endeavor to get as many symmetrical sections put together so as to give the horn a reinforcement. As I recall, our forty-two inch horn, that is a horn that was forty-two inches long, was made up of five or six sections. Each of the sections has been described before as to the shape and our method of manufacturing the horns.

(Deposition of Frank H. Stewart.)

Q. 15. When you united the adjacent sections of the aluminum horns, did the union thereof produce a seam?

By Mr. MILLER.—I object to the question as incompetent and as not the proper way to elicit evidence of an anticipating nature, being in the nature of a cross-examination, and also as leading and suggestive.

By Mr. HICKS.—In view of the objection the question is withdrawn.

Q. 16. Describe the part of the aluminum horn resulting from the joining together of any two adjacent sections thereof.

A. It was simply joined together in a manner known as the tinsmith's seam.

Q. 17. Is there any other term by which such a tinsmith's seam is known?

A. Not to my knowledge. The machines such as we used are common to a great many different branches of sheet-metal workings, such as making stove-pipes, range spouts, etc.

Q. 18. Please look at defendant's exhibit, two-strip metal horn, etc., and compare the union of the two strips of which that exhibit horn consists with the union of the adjacent strips of the aluminum horn made by Hawthorne & Sheble, as described by you.

By Mr. MILLER.—Objected to as leading and suggestive.

A. This seam and this horn are very similar to a type of horn which we made for recording purposes. The aluminum horns which I referred [348] to

(Deposition of Frank H. Stewart.)

were the same as this particular horn in general detail, shape, etc., with the exception of the aluminum horns having four, five, six or seven sections joined together in identically the same manner as the two seams in this particular horn are joined together.

RECESS.

Q. 19. You spoke of having received an X-ray burn prior to July 6, 1898. Please state whether the aluminum horns made by Hawthorne & Sheble as described by you, were made before or after the time at which you received this burn.

A. They were made both before and after.

Q. 20. You referred to the Graphophone Grand Talking Machine put upon the market by the Columbia Phonograph Company. Please state whether the firm of Hawthorne & Sheble made any horn for use with the Graphophone Grand Talking Machine; and, if so, please describe the horn.

A. The aluminum horns we made for the Graphophone Grand were about thirty-six inches long and about the same width across the large end. These horns were made of aluminum because aluminum was light and could be placed on the carriage of the Graphophone Grand, and would support themselves without the horn stand which, of course, was unsightly and in the road, when the machine was being used.

Q. 21. What did these aluminum horns for the Graphophone Grand Talking Machine consist of?

A. They were made of curved tapering sections as have been heretofore described.

(Deposition of Frank H. Stewart.)

Q. 22. How did the tapering sections curve?

A. As I recall, they were curved inwardly on the side so that when they were put together we got a shape not unlike the horn of plenty. This was done to give the horn an artistic appearance.

Q. 23. Of how many sections was the Graphophone Grand horn made up?

By Mr. MILLER.—This method of examination is objected to as incompetent and improper, being leading and suggestive, and not the proper way to prove anticipating matter. [349]

By Mr. HICKS.—In answer to Q. 21, the witness said that these horns were made of curved, tapering sections. The present question merely asks the witness to state the number of the sections.

A. As near as I recall, there were seven or eight, possibly nine, of these sections. My memory is not clear on this as to the exact number.

Q. 24. Describe the union of these curved, tapering sections used in making the Graphophone Grand horn.

A. There was only one way that we could put them together with our machinery. That has already been described to you, by the tinsmith or lock seam. Our horn manufacturing machinery was made to do this.

Q. 25. If you took the different sections of this Graphophone Grand horn apart and placed them side by side flat upon a table, what would be the relation between the edges of the sections nearest to each other?

By Mr. MILLER.—Same objection as before.

(Deposition of Frank H. Stewart.)

A. They would butt together at the two extremes and would have an opening gradually increasing in size according to the curve that the sections were cut upon. With this horn that I have in my hand, if these two seams were placed together they would approximate each other throughout the entire length, that is, on this horn marked with Figure 4. However, with the sections of the aluminum horns, they would not approximate each other, excepting at the small end and again at the large end. However, when these two sections are put over the forming-hook and bent down so that the machine would roll them together, they would be like placing the two sections on the inside of a crescent-shaped hook or bar so that the roller, as it rolled down the seam, would not travel in a straight line, but would go through the arc of a circle, that is, in the part of the horn where it flared out, making the bell or large part of the horn.

By Mr. HICKS.—The horn with the figure 4 thereupon used by the witness in illustration of the answer to the preceding question is "Defendant's Exhibit, Two-strip Metal Horn." etc. [350]

Q. 26. For what purpose were these aluminum horns, made for the Graphophone Grand Talking Machine used?

A. They were used to amplify or make the sound larger and give the sound reproduction a better tone.

Q. 27. Was the horn used for reproducing or recording sound?

A. The aluminum horns were used for reproducing sound.

(Deposition of Frank H. Stewart.)

Q. 28. When did the firm of Hawthorne & Sheble manufacture the aluminum horn of curved, tapering sections for the Graphophone Grand Talking Machine?

A. They were made shortly after the Graphophone Grand was placed on the market, which was, I think, in the year 1897. However, to fix this date, it was before my hand was burned with the X-ray, and, of course, they made a great many afterwards.

Q. 29. Please state the different materials from which the firm of Hawthorne & Sheble made horns for phonographs and other similar machines.

A. We made horns of aluminum, brass, steel and zinc and different combinations of the same. For instance, we would make a horn with a brass body and a silveroid or zinc bell and vice versa. We also made another combination with an iron or steel body with a brass bell. The iron or steel body being Japan black or red. In fact, we had several different colors that were made for the market. Some sold and some did not. Of course, those that did not sell we discontinued. It was due to our continual experimenting and putting out different styles of horns that gave us the reputation of being the leaders, and the trade looked forward to the visits of our salesmen so that they could get the latest ideas and styles in horns.

Q. 30. The materials you have mentioned were all metal. Did the firm of Hawthorne & Sheble handle or make any horns constructed of material other than metal?

A. We did. We made horns of fiberoid, which, I

(Deposition of Frank H. Stewart.)

believe, was furnished [351] to us by the Hard Fiber Company of Wilmington, Delaware. Incidentally, these horns were also made in sections, but were not put together with a lock seam. These were riveted together. We also had horns made of glass, which were manufactured for us by the firm of Gillerlinder and Sons. Their factory is located in Philadelphia, on Oxford St. near Front St. The glass horns were made, of course, in one piece, but in shape and design they followed out the general lines which had been adopted by us in the manufacture of our metal horns.

Q. 31. When was it the firm of Hawthorne & Sheble used the metals mentioned by you and the fiberoid and glass mentioned in the construction of horns for phonographs?

A. Almost from the time that we started in to make horns, in fact, from the time we started in the phonograph business, we experimented and made horns of different kinds and of different materials and different shapes.

Q. 32. Of how many strips did the fiberoid horns consist?

A. We made fiber horns which, I think, were listed in our catalogue as special recording horns. These horns, as I recollect, were made of two sections riveted together like No. 4 horn. That is the horn that we sold. We made some horns, I believe, for Mr. I. W. Norcross, who, at that time, was located in the New Zealand Building at 37th and Broadway, New York City. The horns made for Norcross had

(Deposition of Frank H. Stewart.)

probably a dozen sections in them and were made about five or six feet long and were used by him for recording purposes. Of course, we used the horn for reproducing as well. But the general purpose of the horn we made out of fiber with the long sections riveted together were specially designed and used for recording.

Q. 33. When did you make those horns for Norcross?

A. I do not know the exact date when the horns were made for Norcross.

Q. 34. Were you with the company at the time the horns were made for Norcross? [352]

A. I was in the employ of Hawthorne & Sheble at that time.

Q. 35. Can you state how long it was after the horns were made for Norcross that you left the Hawthorne & Sheble concern?

A. It must have been several years, possibly four or five years, now. I think it was 1903 that I left Hawthorne & Sheble.

Q. 36. You have referred to Mr. Bettini. Did the firm of Hawthorne & Sheble handle any horns for phonographs or phonograph attachments put out by Mr. Bettini?

A. We did. I sold lots of Bettini attachments to our customers in Philadelphia before we gave up the store at 604 Chestnut St. Just what date it was that we did give up the store on Chestnut St., I do not recall.

Q. 37. What was the Bettini attachment?

(Deposition of Frank H. Stewart.)

A. The Bettini attachment was made in two parts, or consisted of two members, a recording attachment and a reproducing attachment which fitted on a specially designed sleeve which rolled on the back rod of the phonograph and supported the recording or the reproducing attachment as might be desired by the party using the machine. The recording attachment was a very sensitive apparatus by which records could be made in a very satisfactory manner by almost anyone. The Bettini reproducing attachment was a large ring with an aluminum diaphragm and a spider attachment for carrying the reproducing sapphire. It gave very satisfactory results and as a general thing would play records a great deal better than the ordinary reproducer, which was furnished with the machine. Bettini also made a reproducing attachment, which would only fit on the graphophone.

Q. 38. Did Bettini make any horns for use with his attachment?

A. Bettini sold horns for his attachment. Whether he made them or not, I do not know. But Hawthorne & Sheble made quite a number of horns for Bettini. These horns were made of aluminum.

Q. 39. What was the shape of the horn sold by Bettini for use with phonographs? [353]

A. The Bettini horn was red in color, about eighteen inches long, made in a gradual taper throughout its entire length, the large end being about ten inches in diameter and the small end about an inch and a half in diameter so as to fit on the tube of the reproducer frame.

(Deposition of Frank H. Stewart.)

Q. 40. What do you mean by "a gradual taper"?

A. I mean that the horn was conical shape, having or terminating with a bell-like flare on the large end.

Q. 41. How was this Bettini horn of a gradual taper constructed?

A. This Bettini horn was made of papier-maché.

Q. 42. When did Bettini put this horn upon the market?

A. I do not know the exact date, but I do know that I sold Bettini attachments and Bettini horns prior to 1898.

Q. 43. Were you familiar with a horn known as the Kaiser horn? A. I was.

Q. 44. When did you first know of the Kaiser horn being upon the market?

A. I do not recall when the Kaiser horn was put on the market.

Q. 45. Are you acquainted with John Kaiser?

A. I used to be, but I have not seen John in a number of years.

Q. 46. Do you recollect whether John Kaiser was a member of any copartnership?

A. If my memory serves me right, I think he was the Kaiser of Harms, Kaiser and Hagen.

Q. 47. Do you know whether that firm sold Kaiser horns? A. No, I do not recall.

Q. 48. Do you know whether the Kaiser horn was used by the public?

A. Well, when I used to meet John, according to what John would say, he was selling all of the horns

(Deposition of Frank H. Stewart.)

that were used by everybody on every phonograph that was sold.

Q. 49. For what use were the fog-horns intended, that were made by the firm of Hawthorne & Sheble for the United States Navy? [354]

A. I do not know positively, but believe they were to be used for fog signals.

Q. 50. Where?

A. My recollection is that they were to be used on some of the battleships.

Q. 51. I show you a photograph and ask you whether you know anything about the horn represented in that photograph.

A. Yes, we made them, that is, Hawthorne & Sheble.

Q. 52. When did Hawthorne & Sheble make such horns?

A. 1898. I do not think this horn was ever catalogued, that is, it was not put in our regular line of horns, but when a novelty like this would be gotten up, we would get out a circular and mail the circulars to the trade so as to see how they would sell.

Q. 53. I show you a horn marked "Exhibit B, John H. George, Ellsworth A. Hawthorne" and having a ring secured to the horn by a piece of metal bearing the initials H. S. Is this the horn shown in the photograph?

A. It seems to be. It is either the same horn or a photograph of one of the horns like this that was made.

By Mr. HICKS.—The photograph just shown to

(Deposition of Frank H. Stewart.)

the witness is offered in evidence and marked "Defendant's Exhibit, Photograph of Hawthorne & Sheble's Fluted Horn of 1898, Frank Z. Demarest, Examiner." The horn just shown to the witness is marked for identification "Defendant's Exhibit, for Identification, Hawthorne & Sheble's Fluted Horn of 1898, Frank Z. Demarest, Examiner."

By Mr. MILLER.—May I inquire if the horn will be subsequently put in evidence?

By Mr. HICKS.—If complainant's counsel insists at the trial that this horn be put in evidence and if defendant's counsel obtains the right to take it to San Francisco, at the time of the trial, the horn will be put in evidence. The horn is not the property of defendant's counsel.

By Mr. MILLER.—If the horn is put in evidence, I have no objection to the photograph. Otherwise I shall object to the photograph as not the best evidence.

Q. 54. I show you a photograph and ask you if you recognize what it is.

A. I do. It is a page from our old catalogue.
[355]

Q. 55. What does it show?

A. It shows the glass horn that I referred to heretofore in my testimony.

Q. 56. Please state when Hawthorne & Sheble manufactured and sold glass horns such as are shown on the photograph.

A. They were made and sold previous to the date of our old catalogue, which was printed in 1900.

(Deposition of Frank H. Stewart.)

Q. 57. Can you produce a copy of the catalogue or paper from which this photograph was made?

A. I cannot.

Q. 58. Do you know where a copy of it can be obtained to-day?

A. I have not the slightest idea. I destroyed all of my old catalogues some years ago.

By Mr. HICKS.—The photograph just shown to the witness is offered in evidence and marked "Defendant's Exhibit, photograph of Hawthorne & Sheble Mfg. Co.'s Advertisement of Glass Horns, Frank Z. Demarest, Examiner."

By Mr. MILLER.—Objected to as irrelevant, incompetent and immaterial, no sufficient foundation being laid and being evidence of a secondary character.

By Mr. HICKS.—If the original copy of the advertisement from which the photograph was taken, can be obtained, it will be offered in evidence, but defendant's counsel is not at present able to produce the original copy.

Q. 59. Please give a brief description of other horns made and sold by the firm of Hawthorne & Sheble during the time that you were with that firm from 1894 down to the close of the year 1900.

A. The horns that we made at that time, that is, the commercial horns, were shaped like this in general with a brass bell on the end of them. That was the popular horn and we sold thousands of them. But, the horn that I have just spoken of has nothing to do with the special horns that we made for special

(Deposition of Frank H. Stewart.)

purposes. You understand we made two types of horn. One type, which was like this was a brass bell on the large end, was a popular-priced horn. The other horn was special, cost more money to produce and was not a popular size, although we made quite a number of them. You [356] might add that the conical-shaped horn with a brass bell was not so delicate as the horn made of several sections and could be nested in crates and take up less room in packing.

Q. 60. Did Hawthorne & Sheble make horns constructed by brazing together adjacent edges of metal?

A. We did.

Q. 61. When?

A. From the time we started to manufacture horns.

Q. 62. Please describe the construction of such brazed horns and the material of which they were composed.

A. In answer to your question, the name of the horn to which you refer was our fifty-six inch full spun horn. We made several other sizes and shapes of the full spun style, but I want to describe to you the way and manner in which the fifty-six inch full spun horn was made, as the same general description could be followed by anyone skilled in the art and turn out a horn by following these directions. A piece of brass of the proper size in width, length and gauge was rolled out on a cutting table. Second, a steel templet or gauge is laid on the brass blank. The shape of this templet is or would be exactly the same as used in the horn which is under discussion at the present time, that is, the flower horn. The

(Deposition of Frank H. Stewart.)

edges of these brass pieces are not only tapered but they are curved inwardly and run through the entire section of the horn. Several of these pieces, if my memory serves me right, I think we used five sections which covered an arc of 72 degrees each. These curved inwardly and tapered sections were put over a forming mandrel, and shaped up. After being shaped up they are annealed and the first brazing operation takes place. After several, or as many of the sections as are necessary to form the horn have been joined together, the horn is again put on a mandrel, given its second shaping and annealed. After annealing, it is put on a spinning press or lathe and run up into shape. After being run up into shape, the rough edges are trimmed down and the horn sent to the polishing-room to [357] be buffed and polished.

Q. 63. During what period of time did the firm of Hawthorne & Sheble manufacture horns made according to the method or process described in answer to your last question.

A. We made horns of this type from the time we started to make horns up until the time we went out of business.

Q. 64. That is to say, from what year until what year?

A. Mr. Hawthorne could tell you better what year than I can. But, if you will call his attention to our old full spun horns and ask him about this he will verify my testimony.

(Deposition of Frank H. Stewart.)

Q. 65. I want your personal knowledge. Please state whether the firm of Hawthorne & Sheble made horns according to the process or method just described by you during any part of the time when you were with that firm.

A. My dear sir, when we started to make horns, the only way that we could make a horn that would not vibrate and would have a pure, rich tone was by making the horn by this aforesaid process that I have just described. This horn or this type of horn was used exclusively by us in the retail store for exhibiting our phonographic records. The store I refer to, was our old store at 604 Chestnut St. and I think we gave up the lease on this store in 1900.

Q. 66. You have answered my question indirectly. I want a direct answer. Please state whether the firm of Hawthorne & Sheble manufactured horns according to the method just described by you during any part of the period of your employment by that firm.

A. When I first went to work in the phonograph department, that is, after Hawthorne & Sheble started in the phonograph business, this was the method in use at that time.

Q. 67. Referring to the time when you received the X-ray burn on your hand, which you have said was some time prior to July 6, 1898, please state whether the firm of Hawthorne & Sheble manufactured horns according [358] to the method and process just described by you before or after the time that you received the X-ray burn.

(Deposition of Frank H. Stewart.)

A. They positively and absolutely did it before that time. They were making the horns years before that.

Q. 68. Please state the extent of the strips or sections of the horns made according to that method or process, that is, to say, at what part of the horn did each section begin and where did it end, longitudinally of the horn?

A. The longitudinal section or lengthwise section of the horn began at the tip of the bell and ended at the ferrule where the horn connection was put on. The cross-section was divided into five parts of 72 degrees each.

Q. 69. I show you a book titled "The Therry of Sound in its Relation to Music" by Prof. Pietro Blaserna, published in New York, by D. Appleton & Co., 1876, and refer you to the matter beginning on p. 156, with the paragraph numbered 4, and continuing down to the paragraph beginning on p. 158 with the words "Fig. 37 represents," and ask you if you are familiar with this book and the matter set forth on the pages referred to.

By Mr. MILLER.—Objected to as incompetent, irrelevant and immaterial, no foundation being laid, leading and suggestive.

By Mr. HICKS.—The foundation is being laid.

By Mr. MILLER.—The foundation is being laid by handing the book to the witness and the witness is now reading it. That is what I object to.

A. I am the owner of the book and have studied it and its contents for a great many years. Being in

(Deposition of Frank H. Stewart.)

the phonographic record recording business and then in the phonograph business, it is my business to be in touch with the scientific as well as the practical sides of the business. Figure 36 represents an apparatus known to science as the phonautograph and makes a tracing of the sound wave on a moving wheel or barrel, which carries a piece of paper and the various sinuosities of the sound wave can be made with precision. Part [359] of the machine shown is a horn made of various or numerous sections which are gradually tapered throughout the entire length of the horn.

By Mr. MILLER.—I move to strike out all that portion of the answer beginning with the words "Figure 36 represents, etc." to the end as not responsive to the question also as secondary and not the best evidence.

Q. 70. How long have you been familiar with this book?

A. That book was given to me as a Christmas present by Prof. Arnold B. Snider of the Boys' High School, Philadelphia, Pa., in 1898.

Q. 71. And has the book been in your possession since 1898?

A. It has continuously. In fact, this is the first time, when I presented it to you to-day, Mr. Hicks, that the book has ever been out of my possession since it was presented to me.

By Mr. HICKS.—Defendant offers in evidence the parts of the book referred to and the same is marked "Defendant's Exhibit, pp. 156, 157 and 158, of Bla-

(Deposition of Frank H. Stewart.)

serna's Work on the Theory of Sound, published in 1876, Frank Z. Demarest, Examiner."

By Mr. MILLER.—I object to the introduction in evidence of the portion of the book as irrelevant, incompetent and immaterial, in that they are only portions of a printed publication. I will not object to the book if it is offered in evidence as a whole and I am perfectly willing to stipulate that after the case is completed, the book may be returned to the owner.

By Mr. HICKS.—The book is at the disposal of complainant's counsel and if he desire to encumber the record with the entire contents of the book he is at liberty to do so.

Q. 72. Are you able from inspection of Fig. 36 of Blaserna's book to tell how the horn of Scott's phonautograph shown in that figure was constructed?

A. I am not.

Q. 73. Are you able to tell from the inspection of Figure 36 of what parts the horn of Scott's phonautograph shown in that figure consisted?

A. I am not.

Q. 74. What can you tell from the inspection of that figure with regard to that horn?

By Mr. MILLER.—Objected to as secondary evidence. [360]

A. I can tell the size, approximately, and the shape of it from having seen an instrument of this character used at a lecture on sound.

Q. 75. What do the lines running longitudinally of the horn in Figure 36 show, if anything?

By Mr. MILLER.—Same objection.

(Deposition of Frank H. Stewart.)

A. This figure shows the general construction of the horn which was used at the lecture. These lines indicate the sections or segments of which the horn was constructed. It shows the way that they were joined together.

Q. 76. How many sections or segments are indicated in Figure 36 on the portion or side shown in the figure?

By Mr. MILLER.—Same objection.

A. There are six seams shown.

Q. 77. On approximately what portion of the horn do these six seams appear?

A. They appear to be on a section of about 90 degrees or a quadrant of the section of the horn?

Q. 78. How many strips would that make in the construction of the entire horn?

By Mr. MILLER.—Same objection.

A. Twenty-four strips in the horn.

Q. 79. What is the shape of each of the strips shown in that figure 36?

By Mr. MILLER.—Same objection.

A. The strips are tapering throughout the entire length of the horn, extending from the diaphragm to the rim at the bell.

Q. 80. What difference do you find in the construction of the horn of Scott's phonautograph shown in that figure 36 and the construction of horns for phonographs such as were made generally by Hawthorne & Sheble from 1894 to 1900 as described by you?

By Mr. MILLER.—Same objection. [361]

A. With the phonautograph which I saw at the

(Deposition of Frank H. Stewart.)

lecture referred to I did not have the opportunity to examine the horn which was used. The general construction of the horn as used and this illustration on p. 157 are alike. Answering Mr. Hicks' question, the difference in the construction between the horn used on the phonautograph and the horns used by Hawthorne & Sheble was merely in the dimensions of the strips which were used. On the horns made by Hawthorne & Sheble, the strips were narrower at the small end and in this way formed a smaller opening. The opening for the diaphragm on the phonautograph being about five inches in diameter and the opening on a phonograph horn being about five-eighths of an inch in diameter.

Q. 81. How was the connection between the small end of the horn of Scott's phonautograph made with the diaphragm thereof?

By Mr. MILLER.—Same objection.

A. The horn was directly connected to the diaphragm holder. The horn was held in approximately rigid position. The diaphragm was stationary and the cylinder upon which the tracing was made moved transversely across the machine and in this manner made a spiral along the face of the tracing paper. As the cylinder which carried the tracing-paper moved, there was always a fresh coating exposed to the registering stylus.

Q. 82. In the horn of Scott's phonautograph how do the edges of the tapering strips run?

By Mr. MILLER.—Same objection.

(Deposition of Frank H. Stewart.)

A. I don't recall the manner. I do not recall the exact detail of the instrument which I saw, but in this illustration the seams run longitudinally.

By Mr. MILLER.—I move to strike out all the testimony given by this witness regarding the subject matter of Scott's phonautograph on the ground that his information was derived largely, if not entirely, from the actual instrument which he says he saw on exhibition and not from the publication alone.

Direct examination closed. [362]

The cross-examination of Mr. Stewart, is adjourned to Saturday, September 20, 1913, at 2:00 o'clock, same place.

Adjourned to Thursday, September 18, 1913, at 11 A. M., same place.

September 18, 1913.

Met pursuant to adjournment.

Present: Counsel as before.

[Deposition of John Kaiser, for Defendant.]

JOHN KAISER, being duly sworn as a witness on behalf of defendant, testifies as follows:

Direct Examination by Mr. HICKS.

Q. 1. Please state your name, age, residence and occupation.

A. John Kaiser; age 40; residence 101 East Tremont Avenue, New York City; occupation, phonograph expert.

Q. 2. Please state what experience you have had with reference to phonographs and similar machines.

A. In the year of 1891, I entered the employ of the

(Deposition of John Kaiser.)

New York Phonograph Company in the capacity of assistant in the recording laboratory at 257 Fifth Avenue, New York. In 1893, the New York Phonograph Company was consolidated with the North American. I was employed by that concern until they went out of business, which, I believe, was 1894. I then gave exhibitions in clubs, churches, etc., until the firm of Walcutt, Miller & Company was organized in the fall of 1894. I was employed by them, which was at that time 110 East Fourteenth Street. In 1896, I became associated with two of the members of that firm, who helped form a corporation known as the Phonograph Record and Supply Company, located in Reade St., New York City. In 1897, this concern liquidated, and I was employed by the Judge Publishing Company at 110 Fifth Ave., New York City. I had charge of their phonograph department. In 1898, I became associated with the firm known as Harms, Kaiser and Hagen, which was formed to make what was known as phonograph master records. In 1900, this company went out of business and I took over what was left of them myself and conducted it myself until 1901. I then [363] entered the employ of the Universal Talking Machine Company. In 1904, I left that concern and some time in the latter time of the same year I entered the employ of the Douglas Phonograph Company. In 1908, after the discontinuance of the Douglas Phonograph Company, I and two other associates spent my time selling what stock was left in that company. The following year I entered the employ of the U. S.

(Deposition of John Kaiser.)

Phonograph Company and took charge of their recording laboratory at 662 Sixth Ave., New York City. In the fall of last year, the laboratory was closed. Since that time and up to the present time I have been experimenting on a few new devices.

Q. 3. Please state whether the new devices on which you have been experimenting are connected with the phonograph?

A. Yes, with the phonograph art.

Q. 4. Please look at U. S. Trademark No. 31,772, registered July 5, 1898, and state whether you are the John Kaiser who registered this trademark for the "Kaiser Horn."

A. Yes, I am that John Kaiser.

Q. 5. Please look at the photograph which I show you and state what you know about the original horn from which the photograph was taken.

A. This is the Kaiser Horn made for the purpose of having a drawing made so that the application for trademark could be applied for.

Q. 6. What relation, if any, existed between the Kaiser horn shown in that photograph and the Kaiser horn shown in that trademark No. 31,772?

A. The drawing was made from this horn that this is the photograph of. To explain a little further, at the time I consulted my attorney, I thought that I could secure a patent on this horn. I took this horn to him in the unfinished shape, meaning by that that I did not have it covered or varnished on the outside as was the custom, so that I could show him the construction more readily. After a consultation on the

(Deposition of John Kaiser.)

subject, he advised me to apply for a trademark, stating that, in his opinion, the horn was not patentable [364] and he advised me then to have a drawing made of this horn so that he could forward it to Washington with the other papers.

By Mr. MILLER.—We move to strike out that portion of the answer reciting what the attorney said or advised the witness on the ground that it is hearsay.

Q. 7. When did this conversation between you and your attorney take place?

A. About a month prior to the time I applied for the trade-mark.

Q. 8. When did you apply for the trademark?

A. In April, 1898.

Q. 9. What has become of the horn from which that photograph was taken?

A. I delivered that horn to this office some time in May, 1913.

Q. 10. Where is the horn to-day, if you know?

A. I don't think I know where it is at just this moment.

By Mr. HICKS.—The Kaiser horn shown in the photograph is at present in San Francisco, Cal., having been there taken for the purposes of the motion for preliminary injunction in this suit and will be produced upon the trial of this suit. The photograph of the said Kaiser horn just shown to the witness is offered in evidence and marked "Defendant's Exhibit, Photograph of Kaiser Horn of 1898. Frank Z. Demarest, Examiner."

(Deposition of John Kaiser.)

By Mr. MILLER.—If the horn itself is put in evidence we will not object to the photograph, reserving, however, the right to determine whether this photograph is a correct photograph of the horn; otherwise we will object to it as incompetent, irrelevant and immaterial and secondary evidence.

Q. 11. At the time you verified your affidavit in this suit on June 6, 1913, did you see this photograph and the Kaiser horn from which it was obtained?

A. Yes, I did.

Q. 12. Is the photograph a correct photograph of said Kaiser horn? A. In my opinion it is.

Q. 13. Please state when and where you first made the Kaiser horn such as is shown in the photograph just offered in evidence.

A. The first phonograph Kaiser horn that I made was in the year of 1895, when I was in the employ of Walcutt, Miller & Company. I [365] gave exhibitions and evening entertainments with the phonograph in the evening, which was a business of my own, so to speak. I always felt that the phonograph record had never been reproduced correctly by the horns then in general use, so after considerable study and experimenting I created what is now known as the Kaiser horn. I gave the first public exhibition with it in the fall of 1895. The success of my exhibition led me to believe that I had succeeded in creating a horn that gave better results than anything used in the phonograph art at the time. It was in Thanksgiving week, 1895, if I am not mistaken, it was on Thanksgiving Eve, in St. George's Parish

(Deposition of John Kaiser.)

House in 16th St., which adjoins St. George's Church.

Q. 14. To what did you attribute the success of the Kaiser horn in reproducing sound from a phonograph record?

A. In my opinion, it was the first horn constructed on any principle. The construction of the horn was such that it afforded the correct space and proper means of actual completion, being built so as to flare outwardly from the beginning at the smaller end and it was the fact that the horn constructed that way gave a reproduction that was pure, especially as to detail, bringing out the more delicate musical passages of the record and having a tendency to make the sound appear out in the horn, a term that was used at that time, commonly in the trade, which other horns did not produce.

Q. 15. What material did you construct the Kaiser horn in 1895 and thereafter, of?

A. The material was a press-board, sort of a tough paper.

Q. 16. Did you attribute any importance to the material of which you constructed the Kaiser horn?

A. I did for the following reasons. I found that in experimenting after using metal, celluloid and many other substances this press-board or paper that I employed in the construction of the horn did not have any sympathetic vibrations, which was found in metal, for [366] some of the climaxes in the record had tones which sympathized with the metal and it would cause what was known as the blast or coun-

(Deposition of John Kaiser.)

ter-vibration. The paper did not have any sympathetic vibration.

Q. 17. What connection, if any, existed between these experiments when you used metal, celluloid and other substances and the Kaiser horn made of paper?

A. I can't seem to understand what you mean.

Q. 18. When did you make these experiments using metal, celluloid and other substances?

A. All during the period that I was giving exhibitions I spent what little time I had in making up horns in order to be able to find something that would give better results than what I was using.

Q. 19. When did you begin to make the experiments. A. I began as early as the fall of 1894.

Q. 20. When did you cease to make these experiments using metal, celluloid and other substances?

A. In 1895, when I finished what is known as the Kaiser horn now.

Q. 21. Please describe the method or process which you employed in constructing the Kaiser horn made of pressed cardboard or tough paper.

A. I employed twelve longitudinal strips, which were placed upon a form and one strip lapping over the other forming a seam. I used glue as an adhesive and to strengthen the horn covered it with twelve strips. I used twelve tapered strips to cover the seams, thereby getting more solidity. I put these strips on the outside of the horn.

Q. 22. Did you use a form in experimenting in the making of a horn from metal, celluloid and other substances?

(Deposition of John Kaiser.)

A. I did in every case where it was practical.

Q. 23. In what cases did you find it practical to use a form?

A. In the celluloid, the form was used in the same manner as with the press-board, using a celluloid glue to fasten the strips at the seams. In the metal, I used the form with a strip of iron [367] running under each seam so that the ends could be soldered, meaning the strips, soldered together so as to form a seam. In the wood the experiment was made in practically a similar manner only that the strips were formed in shape by a method of using seams to allow the wood to bend to the form, and after the wood was kept on the form for a day or two I managed to use another strip of wood going over the seam, gluing that on so as to avoid the possibility of the horn falling apart. I put this strip on the outside of the horn.

Q. 24. Please describe the shape of the form which you employed when constructing the Kaiser horn made from pressed cardboard or tough paper.

A. The form was the exact shape of the inside of the Kaiser horn, meaning by that, that the Kaiser horn when fitted over the form was the same shape as the form exactly.

Q. 25. Please describe the shape of the form which you employed when making horns from celluloid in the manner described by you.

A. The form was identical.

Q. 26. Please describe the shape of the form that you used when making horns from metal in the man-

(Deposition of John Kaiser.)
ner described by you.

A. The form was identical with the exception that I used a metal strip under each of the seams so that the form itself, which was made of wood, would not meet with any injury when soldering.

Q. 27. How many seams did you employ when making horns from celluloid in the manner described?

A. There were various seams employed in experimenting. I tried as many as from four to twelve. The object was to try and cut the celluloid in as few strips as possible in order to handle the mold. I found that I had the most success with twelve strips.

Q. 28. How many seams did you employ when making horns from metal in the manner described by you? [368]

A. To the best of my recollection, I found the same results as I did with celluloid. I found that I could handle the strips more successfully when employing twelve strips.

Q. 29. Please describe in detail the seams used by you for joining together the metal strips when you made horns of metal in the manner described by you.

A. In some cases I just lapped the one strip of metal over the other and employed solder as a means of joining them together. The other experiments were made in various ways. In one particular case I had a tinsmith make the upper part of the horn, which, possibly, was about eight inches long, to which I formed the metal strips by means of a sort of a clamp seam, I would call it. But in most cases I

(Deposition of John Kaiser.)

found it practical to solder.

Q. 30. How did the tinsmith construct this piece eight inches long at the small end of the horn?

A. By means of placing a little furrow on the end and then bringing the metal around in a cone shape with a sort of a lock seam. This piece on the end had only one seam.

Q. 31. In constructing the Kaiser horn of pressed board or tough paper, what was the length or longitudinal extent of each of the strips of paper employed in constructing that horn in the manner described by you?

A. To the best of my recollection it was twenty-two inches from the small end to the large end. In some cases where I made what was known as an exhibition horn some of them were made as long as thirty-six inches. The sizes varied in this instance as I made these horns specially for different purposes. Exhibitors that required a good deal of volume to give exhibitions in public halls and churches, I made them for these exhibitors at about thirty-six inches in length.

Q. 32. Where did each paper strip commence and where did it end, referring to the parts of the horn?
[369]

A. It commenced at the small end where the ferrule was inserted and went to the larger end of the horn.

Q. 33. Where did the strips of celluloid commence and where did they end?

A. The same as in the other, it commenced at the

(Deposition of John Kaiser.)

small end where the ferrule was inserted and went to the larger end.

Q. 34. And where did the strips of metal commence and where did they end when you made horns of metal in the manner described by you?

A. Some commenced at the ferrule and went to the extreme end and others commenced from a distance of about seven or eight inches from the ferrule and went to the larger end.

Q. 35. When you made horns of metal in the manner described by you, did you use any seam other than the lap seam when joining together the edges of the sections of metal?

A. My experimenting on the metal horn was not near as extensive as on the other material owing to the fact that I believed in paper; but in some of my experiments on metal I had to employ a tinsmith to bring about constructing these horns as I was not familiar enough with the metal art, so to speak. In some cases there were other methods of seaming employed, but I doubt whether I will be able to describe them to you.

Q. 36. Was there any reason why you did not manufacture horns from metal?

By Mr. MILLER.—Objected to as incompetent, irrelevant and immaterial.

A. The reason I had was that I considered the paper horn much superior.

Q. 37. Superior in what respect as compared with metal?

A. I believed the paper horn gave a purer repro-

(Deposition of John Kaiser.)

duction of tone and did not give the metallic ring that was found in the metal horns. [370]

Q. 38. Please state the extent of your experience with metal horns for phonographs.

A. In my entire career in the talking-machine business I was more or less interested in the horns, and even in the early stages of 1891, when I entered the business, the matter of being able to reproduce the record to its best advantage seemed to be of great interest to me. There were various kinds of horns on the market. Some were made of brass, some of zinc, some of sheet-metal covered with Japan and another horn made of paper fiber molded, which was then known as the Bettini horn and still another made of glass, that was placed on the market by Mr. M. F. Prescott. After trying them all I found defects in them. The metal horn in all cases had what I termed the sympathetic ring wherever there was a climax in the record causing what is commonly known in the art as the blast. The glass horn had the same defect, giving an over-vibration and ever in sympathy with some climax in the record. The papier-maché horn had a muffled effect and even to the present day horns made of other material besides metal give the best results. In later years they were successful in employing wood in the construction of horns, which, in my opinion, give a very superior reproduction of sound over the metal horns. I still believe that the press-board or paper horn such as the Kaiser horn is still the best; but owing to the fact that we have never succeeded in manufacturing

(Deposition of John Kaiser.)

a paper horn that has any amount of beauty the sale of the horn would naturally not be as great, as most users of talking machines prefer to sacrifice the tone quality of their machine than to sacrifice the harmony of surroundings in their home.

Q. 39. When did you first form your opinion with respect to the comparative merits of pressed cardboard and metal in the construction of horns for phonographs? [371]

A. In about the beginning of the year of 1895. After constructing the Kaiser horns and giving the exhibition I mentioned before I made up several more of the horns to give to my friends connected with me in the art. I gave one to Walter H. Miller and one to Henry J. Hagen and the one I gave to Mr. Miller was exhibited in the presence of Mr. Edison, who, according to Mr. Miller's statement, declared the horn gave the best reproduction of sound he had ever heard. This and the success that I had in the exhibition field confirmed my belief that I had created something worth while.

Q. 40. Has your experience since 1895 led you to change that opinion? A. No, sir, it has not.

RECESS.

Q. 41. What, if anything, did you do in putting the Kaiser horn upon the market in this country?

A. I started to manufacture them for the market in about the middle of 1897. I sold them then to the Judge Publishing Company, while I was employed there. And when we formed the firm of Harms, Kaiser & Hagen I had an opportunity to feature the

(Deposition of John Kaiser.)

horn among the trade as we were selling them quite a number of original records. The sale increased steadily until about the year 1901, when a man by the name of Schoettel put a horn exactly like it on the market and called it the Mega horn. His introduction of the horn hurt my business considerably, so much so, that I finally abandoned making the horn at all in 1903, I believe.

Q. 42. I show you a photograph which has been offered in evidence as "Defendant's Exhibit, Schoettel Mega Horn or Kaiser Horn." Please state whether you saw the horn from which that photograph was taken.

A. This looks like the photograph of a horn I saw at your office here in about May, 1913.

Q. 43. Could you, from an inspection of the horn, tell whether it was one of your Kaiser horns or one of Schoettel's Mega horns? [372]

A. The horns look very much alike. It was only by one thing that was stamped on the inside of the horn that led me to believe that it was a Schoettel horn.

Q. 44. I show you a page *from* photographed from a page of the Talking Machine World. Please state whether the Mega trumpet or Mega Flower there shown was to your knowledge upon the market in this country?

A. Yes, both horns described in this photograph were on the market.

Q. 45. Do you know *for long* a period of time the Mega horns shown in this photograph were on the

(Deposition of John Kaiser.)

market respectively in this country?

A. The Mega trumpet I can remember distinctly was on the market in about 1901. The Mega Flower came later, to the best of my recollection, in about 1904 or 1905.

By Mr. HICKS.—The photograph shown the witness is offered in evidence and marked “Defendant’s Exhibit, Photograph of E. A. and A. G. Schoettel’s Advertisement of Mega Horns in the Talking Machine World, Frank Z. Demarest, Examiner.”

By Mr. MILLER.—I object to the photograph unless the date of its publication in the Talking Machine World is given.

By Mr. HICKS.—The exhibit sets forth a special dispatch from Philadelphia, dated March 12, 1905, and the photograph is a photograph of p. 9 of the Talking Machine World for March 15, 1905.

Q. 46. You spoke of Bettini’s horn made of fiber or papier-maché. Please state when you first knew of this Bettini horn in this country.

A. In the year 1894 I saw the first Bettini horn. I was requested to give an exhibition in Brooklyn in the church that Henry Ward Beecher was connected with at one time. Mr. Bettini requested me to give the exhibition, and I remember going to his laboratory which was then in the Judge Building, New York City, so that I could get acquainted with his attachments, which was a separate feature which he sold and placed on Edison phonographs.

Q. 47. What was the shape of the Bettini papier-maché horn? [373]

(Deposition of John Kaiser.)

A. The best way that I can describe the shape is that it resembled very much one of those funnels you find on steamers, used for ventilators.

Q. 48. Was the Bettini horn anything like the ship's ventilator shown in U. S. Design Patent No. 34,907 of August 6, 1901, to McVeety & Ford?

A. It was very similar to figure 2 with the exception that the edges were round instead of octagon shape at the large end.

Q. 49. The ship's funnel shown in the McVeety & Ford Patent appears to be cut off at the smaller end. Please compare Bettini's horn with the ship's ventilator in this respect.

A. The Bettini horn was constructed all in one piece from the ferrule, which was attached to the speaker of the machine, and gradually tapered outwardly to the large end.

Q. 50. Did Bettini put on the market any other style of horn that you know of in this country?

A. Yes, later, about 1897 or 1898, when I was with the Judge Publishing Company in the same building, he constructed the horns that had an aluminum bell and the shape was pretty near the same as his former horn and was constructed so that the body between the ferrule and the aluminum bell was made of a series of strips joined together on the edges. I have quite forgotten the material used in that part of the horn. I cannot state surely whether it was metal or fiber.

Q. 51. Can you state how the different strips making up the part of the Bettini horn from the ferrule

(Deposition of John Kaiser.)

to the aluminum bell was secured together?

A. To the best of my knowledge they had a clamp seam.

Q. 52. What do you mean by a "clamp seam?"

A. I mean a strip that runs between the sides of each strip, where they run adjacent to each other and it seemed as if this strip was forced together by some clamping; that is as best I can describe it.

Q. 53. Did this clamping strip contain two U-shaped pockets?

By Mr. MILLER.—Question objected to as leading. [374]

A. Well, I would describe the strip as having a groove on each side in which the strips of the horn were inserted.

Q. 54. If, then, you looked at this clamping strip from one of its ends, what would the shape of the end appear to be?

A. I suppose you would call that a U-shape.

Q. 55. Would a U-shape represent both grooves you mentioned? A. Yes, it would.

Q. 54. Please look at Fig. 3 of U. S. Patent No. 534,543, of Feb. 19, 1895, to Berliner, and state whether the horn shown in that figure was ever on the market in this country, to your knowledge or in use therein.

A. Yes, I remember seeing quite a number of these horns on machines such as shown in the sketch.

Q. 55. Please describe the material of which horns like that shown in the sketch were composed.

A. The material resembled hard rubber and the

(Deposition of John Kaiser.)

dis-record-that-was-on-the market composition was practically the same as that the record was composed of.

Q. 56. Do you know of any horn for phonographs constructed of wood, that have been on the market in this country?

A. Yes, I know of quite a few. The wood horn made and sold by the S. B. Davega Company in which a namesake of mine, Lippman Kaiser, was interested, was built on the same lines as the Kaiser horn. This horn I saw in about the year 1904 and in 1907 the Jordan Furniture Company at Brooklyn manufactured a horn which was later sold exclusively to a phonograph supply company in Warren St. It was known as the Eureka horn and about the same time the Victor Company built a horn or had it built for them over the lines of the Kaiser horn and about a year later the Music Master horn appeared on the market. These horns were all about the same shape, similar to the Kaiser horn. All of these horns mentioned were made of wood. [375]

Q. 56. Do you know whether The American Graphophone Company or its selling agent, the Columbia Phonograph Company, has put on the market in this country any horns made of wood?

A. Yes, I remember that the Columbia Phonograph Company put a horn on the market made of wood. It was manufactured by a former salesman of theirs, Thomas Murray. It was made somewhere in the State of New York, but I cannot recall the time. This horn was identical in shape with the

(Deposition of John Kaiser.)

other horns mentioned and the Kaiser horn.

Q. 57. How about the National Phonograph Company or Thomas A. Edison, Inc., with respect to horns made of wood?

A. I can remember that they equipped their outfits, especially the better type of machine, or most expensive type, with the wooden horns, similar to the ones described.

Q. 58. How were these wooden horns which you have mentioned constructed?

A. The Eureka horn was constructed of a number of longitudinal strips joined together by a strip that run from the small end of the horn to the large, which had a U-groove on each side. The strip appeared on the outside of the horn as well as the inside. The wooden horn that the Victor and Columbia Company and Edison Company were equipping their machines with were also made of longitudinal strips which were brought together and glued.

Q. 59. Were the wooden horns mentioned by you constructed in any other way than by joining together the number of longitudinal strips of wood.

A. Not to my knowledge.

Q. 60. I show you a photograph and ask you to state what you know of the horn shown in that photograph.

A. This is the photograph of the Eureka horn in marquetry finish, that I had in my possession since the time I purchased it, about 1907, from the supply company in Warren St. [376]

Q. 61. What has become of the original horn from

(Deposition of John Kaiser.)

which this photograph was taken?

A. I delivered it to this office some time in May, 1913.

By Mr. HICKS.—The horn from which the photograph just shown to the witness was taken, having been taken to San Francisco and left there for the purposes of this suit, the photograph is offered in evidence and marked "Defendant's Exhibit, Eureka Marquetry Finish Horn of 1907, Frank Z. Demarest, Examiner." The original horn will be offered in evidence at the trial.

Q. 62. I show you two pages of the Talking Machine World, Nos. 38 and 39, and ask you to look at them and state what you know about the horn shown in the two cuts on p. 38.

A. The two cuts that appear on p. 38 are cuts of the horns sold by the General Phonograph Supply Company and manufactured by the Jordan Furniture Company of Brooklyn and are similar to the Eureka horn that I described.

By Mr. HICKS.—The pages referred to are offered in evidence and are marked "Defendant's Exhibit, Advertisement of the Eureka Wooden Horn, in the Talking Machine World for December 15, 1907, Frank Z. Demarest, Examiner."

Q. 63. Please state what you know about the use of the lock seam or tinsmith's seam such as is shown in defendant's exhibit, two-strip metal horn, which has a figure 4 painted thereon, in the construction of horns for phonographs in this country.

(Deposition of John Kaiser.)

A. Mostly all of the metal horns that were in use from the time I entered the talking-machine field had a seam such as this.

Q. 64. Do you know of any other seam that has been employed for joining together the edges of sheet metal used in the construction of horns for phonographs?

A. There were some horns with a wire seam that was soldered to the metal.

Q. 65. What horns were those?

A. Why, in the early days, say, about 1895 or 1896, the Tea Tray Company, I believe, a concern in Newark, manufactured what was known [377] as the fifty-six inch exhibiting horn. There were a few other manufacturers that I cannot recall at this time that employed this seam and a good many recording horns that were made up for the laboratory use were constructed this way.

Q. 66. Was the wire used in this seam on the inside or the outside of the horn?

A. On the outside of the horn.

Q. 67. In what direction did the wire run?

A. It ran from the small end of the horn straight out to the outer or larger end of the horn.

Q. 68. How many such wire seams were employed in the construction of these wire-seamed horns in 1896?

A. They varied in number of seams. Some had only one. Others had two and in some of the recording horns, especially, there was as many as eight seams.

(Deposition of John Kaiser.)

Q. 69. Where more than one of these wire seams were employed, of how many sections of the sheet metal did the horn consist?

A. In some of the recording horns which were octagon shape there were eight pieces of metal. Others that were made square had four pieces of metal. And where two seams were employed there were two pieces of metal.

Q. 70. What was the shape of these horns for the phonograph, constructed of two or more sections of metal joined together at their edges by these wire seams?

A. The shapes varied considerably. There were some that were shaped like defendant's exhibit, two-strip metal horn having the figure 4 painted thereon. Others that were cone-shaped to about fifteen inches from the ferrule and then had a flare attached accentuating the flare that this horn contains. Then, in the recording horn there were pyramid shapes and octagon shapes and then there was a collapsible horn that was built for the convenience of traveling exhibitors. These collapsible horns were built in sections, [378] cone shape, and each section was flaring so that when the horn was pulled together it resembled defendant's exhibit, two-strip metal horn having the figure 4 painted thereon, only considerably larger and the last section, being the section at the large end of the horn, was bell shaped.

Q. 71. Were any other horns for phonographs constructed in this country to your knowledge by use of the wire seam after 1896 and before the close of

(Deposition of John Kaiser.)

the year 1904; and, if so, describe the same giving the shapes thereof.

A. In 1903 came upon the market what was commonly known as the Flower horn, a horn constructed of longitudinal strips of metal with this wire seam, forming a series of petals on the outer or larger end of the horn. This horn resembling a flower was named the Flower Horn. There were quite a number of them, the majority were shaded and painted on the inside to give them a distinct flower effect. This horn became very popular with the trade, so much so, that a number of cornice makers became interested in the manufacture of the same and the various jobbers were competing with one another to get the dealers' trade through the attractive offers they could make on this horn. The standard manufacturers at the time, known in the trade, such as the Tea Tray Company, Hawthorne & Sheble, The Standard Metal Company, all became interested in manufacturing the horn under similar lines.

Q. 72. Have you ever known of a horn for a phonograph being upon the market in this country, made up of several strips of metal joined together at their edges by any butt seam, that is to say, a seam formed by turning over the edges of the strips of metal at right angles, then placing the outwardly extended flanges so formed and soldering the same together?

A. I believe there were quite a number of the Flower horns made with that seam.

Q. 73. Are any horns having such a butt seam on the market in the United States to-day, to your knowledge? [379]

(Deposition of John Kaiser.)

A. Yes, there are quite a number.

Q. 74. Who makes them?

A. I believe that the majority of the horn manufacturers employ that seam to-day.

Q. 75. Have you ever seen a horn put out by the Edison Company having that seam?

A. It is five years since I have been interested in the jobbing end and I cannot state positively whether the horns put out with the Edison outfits had that seam. I do know, however, that we sold considerable horns with that seam when we were in the jobbing business.

Q. 76. Please describe, in your own words, what you understand to be the "butt seam."

A. The way I would describe that is that the metal being joined together at its edges by the means of one edge locking into the other and then soldered together.

Q. 77. Please compare your definition of the butt seam with the seam shown in defendant's exhibit, two-strip metal horn having the figure 4 painted thereon.

A. This seam here on the exhibit mentioned locks the one piece of metal into the other by means of turning over the edges of both pieces of metal; and the butt seam turns over one edge.

Q. 78. In your answer to Q. 76 you described the "butt seam," saying that "the metal being joined together at its edges by the means of one edge locking into the other and then soldered together." I do not understand what you have had in mind as the

(Deposition of John Kaiser.)

butt seam. Please explain how in your definition of the butt seam one edge of the metal locks into the other.

A. I think that in explaining the butt seam I should have stated that one end of the metal laps over the other.

Q. 79. Please illustrate in what manner one end of the metal laps over the end of the adjacent sheet of metal to form the butt seam [380] that you have in mind.

A. I may be able to describe what I mean with a piece of paper. (Paper handed witness.)

Q. 80. In answer to the last question you have taken a piece of paper and divided the paper into two parts. You have also turned over the edge of one part so that the turned-over part lies flat with the other part of the paper of which you turned over the edge. And you have done the same with the other section of the piece of paper and then you have locked the two turned-over edges together by inserting the two turned-over edges into the two grooves formed by turning over the edges. Is that correct?

A. Yes, that is correct.

Q. 81. I have glued together the interlocking turned-over edges of the two sections of the piece of paper as they were interlocked and placed by you. Please look at the seam thus formed and state whether it now is as it was when you made the seam.

A. It is.

By Mr. HICKS.—Defendant offers in evidence the paper forming the seam referred to and marked

(Deposition of John Kaiser.)

“Defendant’s Exhibit, John Kaiser’s Illustration of What He Understood the Butt Seam to be, Frank Z. Demarest, Examiner.”

Q 82. Please state whether any different effect is produced in a horn for phonographs by employing one seam or more than one seam in the construction of the horn, with respect to the reproduction of sound from a phonograph record.

A. In my opinion, the seam makes absolutely no difference in the reproduction. I believe, however, that a horn will be more durable if constructed with more seams.

Q. 83. Please state the tendency at the present day with respect to the use of the horns for phonographs. By this I mean, what is being done with regard to horns in the manufacture and use of phonographs.

By Mr. MILLER.—Objected to as incompetent, irrelevant and immaterial.

A. At the present day the demand of the public is what is known as [381] the hornless machine. To my knowledge a machine equipped with a horn to-day similar to the outfits sold four or five years ago is absolutely unsalable.

Direct examination closed.

Cross-examination by Mr. MILLER.

XQ. 84. Referring to Bettini’s papier-maché horn and Bettini’s horn with an aluminum bell and Schoettel’s Mega horns and the Eureka horn, all testified to by you, I ask you if those horns are on the market to-day.

A. Why, to my knowledge I don’t think they are.

(Deposition of John Kaiser.)

There may be some dealers who may have been carrying them for years and are still offering them for sale. But the general demand for horns has dropped off entirely.

XQ. 85. Do you think that the modern hornless machines are any improvement over the horn machines so far as reproducing of records is concerned?

A. I do not think there is any improvement. In my opinion the old method of reproducing sound is superior to the present-day hornless machine.

Cross-examination closed.

Deposition closed.

New York, Sept. 20, 1913.

Met pursuant to adjournment at 2 P. M.

Present: LOUIS HICKS, Counsel for Defendant.

No appearance for Plaintiff.

**[Deposition of Frank H. Stewart, for Defendant
(Cross-examination).]**

FRANK H. STEWART resumes the stand for cross-examination by Mr. Miller.

By Mr. HICKS.—At 1:45 P. M. I received by messenger a note from plaintiff's counsel, Mr. Miller, stating that it would be impossible for him to proceed with the cross-examination of Mr. Stewart this afternoon and requesting a continuance until Monday, September 22. This note was received too late to enable me to notify Mr. Stewart, who has come from Philadelphia to New York for his cross-examination, principally for the convenience of plaintiff's counsel. In view of [382] the fact that plaintiff's counsel was not willing to proceed with the cross-examina-

(Deposition of Frank H. Stewart.)

tion of Mr. Stewart at the close of his direct examination at 4 P. M. on September 17, and since Mr. Stewart has come on twice from Philadelphia to give his deposition, defendant's counsel requests plaintiff's counsel to proceed with the cross-examination of Mr. Stewart on September 24, 1913, at 11:00 o'clock in the forenoon in the office of Horace Pettit, Esquire, room No. 705 Witherspoon Building, Walnut below Broad St., Philadelphia, Pa., Mr. Stewart having stated that he will arrange to be present at that time and place.

Adjourned to Monday, September 22, 1913, at 11:00 A. M., at 233 Broadway, New York City, for the examination of Camillus A. Senne, who has been subpoenaed by defendant to appear at that time and place.

New York, Sept. 22, 1913.

Met pursuant to adjournment.

Present: JOHN J. MILLER, Esq., Counsel for
Plaintiff.

LOUIS HICKS, Counsel for Defendant.

[Deposition of Camillus A. Senne, for Defendant.]

CAMILLUS A. SENNE, being duly sworn as a witness on behalf the defendant, testifies as follows:

Direct Examination by Mr. HICKS.

A1. Please state your name, age, residence and occupation.

A. Camillus A. Senne, 39, 857 Whitlock Avenue, Bronx, New York, manufacturer of gummed tape and sealing machine.

Q. 2. Please state what experience you have had in

(Deposition of Camillus A. Senne.)

the manufacture of horns for phonographs.

A. I began the manufacture of horns for phonographs in the early part of 1904. I then manufactured a horn made out of metal strips fastened together at their abutting edges by means of solder. A horn of this nature had the morning-glory effect when completed. Another was the strips were tapering and by holding them together with solder and formed a bell-shaped construction. During the year 1904 I was advised by a Mr. Nielsen that the horn I was manufacturing was an infringement on a horn for which he had made an application for letters patent. Of course, I paid no attention to his claims, [383] but some time later in the year he showed me the final papers where he had secured a patent on his horn that was similar to mine. I then stopped making such metal horns and made horns out of paper or cardboard, the strips being identically the same as those made out of metal, but their edges were fastened together by a strip of metal box stay material. I manufactured that horn until the later part of 1907. A suit in equity was brought against me and my partner, Peter E. Petersen, in the early part of 1905. This suit was brought by the United States Horn Company of Brooklyn, N. Y. Not having any funds to defend the action the case went by default of court. An injunction was handed down some time in the year of 1905. In the meantime I had applied for an application for letters patent on a horn made out of paper strips or metal, a collapsible horn, the construction of which was the

(Deposition of Camillus A. Senne.)

same as the other two horns manufactured by me. I was asked by Mr. Stickney, counsel for the complainant, to call on him at his office in Nassau Street, New York City. He had drawn up a contract which he wanted me to sign, and without reading the contract over very carefully I signed my name to the same, but not at his office, but at my home. But after looking over the said contract very carefully I concluded not to go into the deal, and I did not deliver the contract, but have it still in my possession.

Q. 3. Please look at U. S. Letters Patent No. 811,877, patented Feb. 6, 1906, upon an application filed November 1, 1904, to Camillus A. Senne for a phonograph horn and state whether you are the Camillus A. Senne to whom that patent was granted.

A. I am the Camillus A. Senne, inventor of said horn.

Q. 4. Did you file your application for said patent on November 1, 1904? A. I did.

Q. 5. In your answer to Q. 2 you stated that you had applied for letters patent for a collapsible horn. What letters patent did you refer to?

A. I refer to 811,877 of February 6, 1906. [384]

Q. 6. Also in your answer to Q. 2 you stated that the construction of the collapsible horn of that patent was the same as the construction of the metal and paper horns, which you referred to in your answer to

Q. 2. Were those metal and paper horns also collapsible?

A. No, they were not. In answering said question

(Deposition of Camillus A. Senne.)

I meant that the strips used in making the collapsible horn were of the exact same shape as those used in making the other two horns; but, of course, in the collapsible horn, I provided means for disengaging said strips. Otherwise the horn was the same.

Q. 7. In your answer to Q. 2 you stated that in the early part of 1904 you manufactured a horn made out of metal strips fastened together at their abutting edges by means of solder. Please state how the abutting edges were put together so that they could be fastened by means of solder.

A. The extreme edges of those strips were slightly turned outwardly forming a flange running from one end or from the larger end of the strips to the narrow end and those flanges were then soldered together.

Q. 8. In your answer to Q. 2 you stated that you stopped making such metal horns and made horns out of paper or cardboard, the strips being identically the same as those made out of metal but their edges being fastened together by a strip of metal box-stay material. Did you file any papers in the United States Patent Office with reference to this horn?

A. On November 18, 1904, I filed a caveat on this particular horn in the U. S. Patent Office.

Q. 9. When did you begin manufacturing the paper horns upon which you filed the caveat?

A. In the early part of September, 1904.

Q. 10. In answer to Q. 2 you stated that Mr. Stickney drew up a contract which he wanted you to sign. How did you receive the contract from Mr. Stickney?

(Deposition of Camillus A. Senne.)

A. I think Mr. Krabbe advised me in person to call on Mr. Stickney. In calling at his office he told me that some arrangement could be made whereby we could make the metal horn as made by us in the past and he drew up a contract which I believe he handed to me at his office.

Q. 11. I show you a certified copy of an affidavit verified by Burnham C. Stickney on November 9, 1905, in the suit of the United States Horn Co. v. Peter E. Petersen and Camillus A. Senne, then pending in the United States Circuit Court for the Southern District of New York and call your attention to this statement by Mr. Stickney therein:

“A day or two after said interview with Senne, he again called at my office, and talked with me as to the terms of the contract and royalty, and on the same day I prepared such contract, and mailed it to Senne.”

Do you recollect that occurrence?

By Mr. MILLER.—Question objected to as leading, also as in the nature of a cross-examination, also as incompetent, irrelevant and immaterial.

A. I believe that is right.

By Mr. HICKS.—The affidavit referred to is offered in evidence and marked “Defendant’s Exhibit, Stickney Affidavit, November 9, 1905, Attorney for Plaintiff in Suit of U. S. Horn Co. v. Petersen and Senne, Frank Z. Demarest, Examiner.”

By Mr. MILLER.—Objected to as incompetent, irrelevant and immaterial.

By Mr. HICKS.—The purpose for which this affi-

(Deposition of Camillus A. Senne.)

davit is offered in evidence is to show the position taken by the United States Horn Company with reference to the Nielsen Patent involved in this suit and in the suit brought by the United States Horn Company.

Q. 12. How many proposed contracts did you receive from Mr. Stickney?

A. I believe I only received that one.

Q. 13. Will you please produce the contract which you received from Mr. Stickney? [386]

A. This is the contract I received from Mr. Stickney.

By Mr. HICKS.—The paper produced by the witness is offered in evidence and marked “Defendant’s Exhibit, Contract Proposed by the United States Horn Co. to Camillus A. Senne, in 1905, Frank Z. Demarest, Examiner.”

By Mr. MILLER.—Objected to as incompetent, irrelevant and immaterial.

Q. 14. Please refer to the paragraph marked “First” of the proposed contract and to the paragraph marked “Sixth” thereof, and state what was the horn marked exhibit “A” therein referred to.

By Mr. MILLER.—Same objection and as calling for secondary evidence.

A. I believe it’s the metal horn or the first horn manufactured on which I was to pay a royalty of three cents (3¢) per horn.

Q. 15. Under paragraph sixth, exhibit “A” is referred to as “being a copy of the drawing accompany-

(Deposition of Camillus A. Senne.)

ing the said caveat." Did the caveat describe a metal horn?

By Mr. MILLER.—Question objected to as incompetent, irrelevant and immaterial, as calling for secondary evidence, also as leading.

A. No, the caveat described our paper horn.

Q. 16. What led you to say that exhibit "A" referred to in paragraph marked "first" and "sixth" referred to a metal horn, if the caveat described only a paper horn?

By Mr. MILLER.—Same objection.

A. Because the infringement I think was brought on account of the metal horn and on this horn I was to pay a royalty. At the same time I was asked in the contract to transfer my right on this particular caveat or the horn covered by this caveat. If the decision was handed down to cover all horns made by me and particularly the one covered by the caveat I can see no reason why they asked me in the contract to transfer my right covered by the caveat.

Q. 17. Did Mr. Stickney send to you any horn marked exhibit "A," together with the proposed contract?

A. I do not believe that he did. No, this contract just shown is [387] the only instrument received by me. If there was an exhibit it certainly would be attached to this contract.

Q. 18. Before the United States Horn Co. brought the suit on the Nielsen Patent against you and Petersen, what horns had you manufactured?

A. If you will give me the date of this suit I can

(Deposition of Camillus A. Senne.)

then answer the question more directly.

Q. 19. Please assume that the bill of complaint in the suit was filed in the United States District Court for the Southern District of New York on May 1, 1905.

A. I manufactured three different types of horns before this suit was brought, a rigid metal horn, a rigid paper horn and a collapsible horn.

Q. 20. Was any one of the three horns mentioned in the last answer covered by the caveat?

By Mr. MILLER.—Objected to as incompetent and as calling for a question of law and also as secondary evidence.

A. Yes, the paper horn referred to in my answer was covered by the caveat.

Q. 21. Was any one of the three horns mentioned by you covered by the patent No. 811,877?

By Mr. MILLER.—Same objection.

A. Yes, the collapsible metal horn was covered by my application for the patent No. 811,877.

Q. 22. I show you a photograph and ask you to state what it is.

A. This is the photograph, a true copy, of the horn manufactured by me and covered by the caveat, referred to.

Q. 23. Please describe the construction of the horn shown in the photograph.

A. This horn consisted of a number of longitudinal strips made out [388] of cardboard. Their abutting edges were not turned up forming a flange as was the case in the metal horn, but the flat abutting edges

(Deposition of Camillus A. Senne.)

were secured together by strips of metal stay material. The stay material is a strip of steel which has, on both sides over its entire length, a row of punched holes forming prongs on the inner side of the strip and these prongs were driven into the cardboard of the leaves and thereby held together, which formed a rib or ribs running over the entire length of the horn and up to the inner end to which a metal nozzle was attached, making the horn complete.

Q. 24. Please describe the edges of the cardboard strips composing the horn, with respect to the large end of the horn.

A. The large end of the horn or the bell edges of the cardboard leaves were also reinforced by a metal strip, the same kind as used in making the ribs of said horn.

Q. 25. Have you, in your possession, the horn from which this photograph was taken?

A. No, I have not at the present time, but I know that I can find several of these horns and this particular horn from which this photograph was taken I have turned over to Mr. Hicks.

Q. 26. Did you deliver the horn from which this photograph was taken to me at the time you verified your affidavit in this suit, June 5, 1913?

A. I did not deliver this horn to Mr. Hicks in person, but to a gentleman by the name of Mr. McCoy, at my office, about that time stated.

Q. 27. Does the photograph show the condition of the horn at the time you delivered it to Mr. McCoy?

A. Yes, this photograph is an exact reproduction

(Deposition of Camillus A. Senne.)

showing the horn in the same condition as it was when handed to Mr. McCoy.

Q. 28. Can you state when the particular horn from which this photograph was taken was made by you? [389]

A. Yes, this particular horn was made by me and was one of a lot manufactured by me in the early part of 1905.

By Mr. HICKS.—The horn from which the photograph was taken having been sent to San Francisco for the purposes of this suit, the photograph is offered in evidence and marked "Defendant's Exhibit, Photograph of Senne's Paper Horn with Metal Strips of 1904, Frank Z. Demarest, Examiner."

Q. 29. Please point out any differences between the horn of paper with metal strips, shown in the photograph, and the horn of your caveat, as described in paragraph sixth of the agreement proposed to you by the United States Horn Company.

By Mr. MILLER.—Objected to as incompetent and as calling for secondary evidence.

A. There is absolutely no difference between the horn shown in this photograph and the horn mentioned as covered by caveat in the proposed contract.

RECESS.

Q. 30. I show you another photograph and ask you to state what it is.

A. This photograph represents a horn the same as covered by caveat with the exception that gummed paper is used for holding the cardboard strips together instead of metal strips as used on the horn

(Deposition of Camillus A. Senne.)
described in the caveat.

Q. 31. How did you come to employ gummed tape or paper to join together the strips making up the horn, instead of the metal strips shown in the other photograph?

A. I found that gummed paper was by far a cheaper material to use and it answered the same purpose as the metal strip, which was in cost about ten times as much as the gummed paper.

Q. 32. What has become of the horn from which this photograph was taken?

A. The horn from which this photograph was taken I turned over to Mr. McCoy at the same time the other horn was turned over.

Q. 33. Is the photograph a correct photograph of the horn in the condition it was at the time you turned it over to Mr. McCoy? [390]

A. Yes, the photograph shows the exact condition the horn was in at the time of delivery to Mr. McCoy.

Q. 34. When did you begin making horns of paper strips the edges of which were secured together by gummed paper?

A. I believe it was in the latter part of 1906.

By Mr. HICKS.—The horn from which the photograph was taken having been taken to San Francisco for the purposes of this suit, the photograph is offered in evidence and marked "Defendant's Exhibit, Photograph of Senne's Paper Horn with Gummed Paper Strips, Frank Z. Demarest, Examiner."

Q. 35. About how many of the original metal horns

(Deposition of Camillus A. Senne.)

composed of metal strips having their edges soldered
did you make?

A. I made about 2,000 horns.

Q. 36. About how many of the paper horns with
metal strips did you make?

A. I made about fifteen to sixteen thousand of
the paper horns. This includes both styles of paper
horns.

Q. 37. Please describe how you made the metal
horns, of which you made about two thousand.

A. The nine or ten metal strips of which the horn
is composed were held over a form of plaster of paris
and secured thereon by a number of rings which fitted
over those metal strips at different points and held
those strips to the plaster of paris form. I then held
the flanges of the metal strips together with a pair of
pliers and the solder was then applied to the two
meeting edges of the metal strips. After the solder
was applied to the entire length of the flanges, which
formed then a rib in the unfinished state, and this rib
was filed down and then the horn was examined, as in
filing down these ribs the file would work through the
solder a good many places and showed several holes
by looking through the horn from the inside and these
holes had to be filled up again with solder.

Q. 38. Why did you construct these two thousand
horns in the manner [391] described by you refer-
ring to the method by which you secured together the
edges of the tapering strips?

A. Because I had no means to buy machinery for
making a lock seam, which is a far easier way than

(Deposition of Camillus A. Senne.)

securing the edges together in the way we went about.

Q. 39. In your experience in the manufacture of these two thousand horns of metal in the manner described by you, what conclusion did you come to as to this method of manufacture?

By Mr. MILLER.—Objected to as incompetent and as not calling for the facts.

A. I found it was very difficult to make the horn in the manner described and would take from half an hour to an hour to complete one horn, while I could make about ten of the other horns in the same time.

Q. 40. Please compare the cost of making one of these metal horns in the manner described by you with the cost of making one of the paper horns which you made, as testified by you.

A. The cost of material for both of these horns was about alike, but the labor in making the metal horns was about ten times as much as in making the paper horns. For instance, I was able to make about ten horns a day of metal, while I produced from ninety to a hundred horns made out of paper per day.

Q. 41. At what price was it necessary to sell the metal horns in view of the expense of manufacture?

A. I had to sell the metal horn at two dollars wholesale in order to make a fair profit, while I could afford and did sell the paper horn as low as seventy-five cents, which netted me a profit as large as made on the metal horn.

Q. 42. Before you began the making of these metal horns in the manner described by you had you ever seen Peter C. Nielsen or a horn made by him?

(Deposition of Camillus A. Senne.)

A. I had never seen a Nielsen horn before that time. Neither did I see Mr. Nielsen. [392]

Q. 43. Is there any means by which you can fix the date at which you first began to make these metal horns in the manner described by you?

A. I could not state the exact date as my partner was first in making those metal horns. I believe, by looking up the records of the Consolidated Gas Company, we would be able to find out the exact date when application was filed for installation of gas in the loft in which the horns were manufactured, which was located at 401 West 124th St., New York City.

Q. 44. From whom was the loft rented?

A. The loft was rented from a party by the name of Noel, who was then the lessee of said building.

Q. 45. Do you know what has become of Mr. Noel?

A. Yes, I believe this party is now doing business under the firm name, Noel Realty and Construction Company at Riverside Drive and 137th Street. I have just *look* in the New York Telephone Directory and find this party listed under said name and knew however, beforehand, that said Noel embarked in the building business.

Q. 46. Have you any lease, letters or other papers in your own possession, which would enable you to fix the date when you and Mr. Petersen occupied said loft?

A. No, I have not. All papers and documents were destroyed in a fire during the year 1908.

Q. 47. Referring to the contract submitted to you by the United States Horn Co. in 1905 and to para-

(Deposition of Camillus A. Senne.)

graph marked "Fifth" thereof, please state whether the application, Serial No. 231,003, there referred to, was the application for your patent No. 811,877 and whether the filing date given in the contract is the correct filing date.

A. I believe that this description covers my horn as per letters patent 811,877, but the contract has the wrong filing date although the application number is correct. [393]

Q. 48. What claim, if any, was made by the United States Horn Company through its officers or agents after the granting of the injunction by default in the suit brought by that company against you and Mr. Petersen, with respect to any horn being manufactured by you?

By Mr. MILLER.—Objected to as incompetent, irrelevant and immaterial.

A. A certain Mr. Krabbe, a member of the firm, United States Horn Company, came to my house in the latter part of 1905, and before me and Mr. Petersen he stated that he was not in business to make horns but simply trying to get a royalty from all the people that were making horns. He then invited me to come over to Brooklyn and he would show me that he was correct in his statement, as he stated he had about six hundred horns in his possession all finished with the exception of painting or decorating and they were not going to put them on the market.

Q. 49. Did you go to Brooklyn and see these six hundred horns?

By Mr. MILLER.—Same objection.

(Deposition of Camillus A. Senne.)

A. I did go to Brooklyn and saw Mr. Krabbe at his store and he then took me down to his shop, which was somewhere on Broadway in Brooklyn, and showed me several large stacks of horns, which were rusting to pieces.

Q. 50. Did Mr. Krabbe make you any proposition or offer with regard to your horn business?

By Mr. MILLER.—Same objection.

A. He offered to buy out my horn plant together with the phonograph store, which I kept at that time, for the sum of five hundred dollars (\$500).

Q. 51. What reply did you make?

By Mr. MILLER.—Same objection.

A. I refused to accept his offer.

Q. 52. Please state whether Mr. Krabbe made any claim to you with [394] respect to a violation of an injunction issued against you in the suit brought by the United States Horn Company.

By Mr. MILLER.—Same objection.

A. Yes, some time before my visit to Brooklyn, Mr. Krabbe sent a woman into my store to buy several records and a phonograph horn and in making the purchase, I handed her a horn made out of paper, but fastened together a little different from any of the other horns. I am not quite sure that this horn was made out of one piece or fastened together with ribs on the inside of the horn; but I know it was one of the two different types mentioned. Shortly after this purchase was made, Mr. Krabbe entered my store and told me that I had sold a horn just a while ago and that he had two detectives outside and would

(Deposition of Camillus A. Senne.)
have me arrested for contempt of court.

Q. 53. How long after the woman purchased the phonograph records and horn did Mr. Krabbe enter your store?

By Mr. MILLER.—Same objection.

A. About two or three minutes after.

Q. 54. What, if anything, do you know about the Kaiser horn?

A. Yes, I was the owner of a phonograph and a horn about two years before I started in the manufacturing of horns; and this particular horn used on a phonograph in my home was a paper horn made or built of a number of cardboard strips which were larger on one end and smaller on the other end. These pieces were glued together, but not being familiar with horns, I did not know by whom it was manufactured and did not even know the name it was sold by. But in traveling around selling my own horn, I came across a horn exactly like the one used with my machine, in a store in New York, and this horn was employed by me for use for playing phonograph records to and selling records to customers, and then I found out from the owner of the store that this was the Kaiser horn and that he preferred [395] a paper horn over any metal horn for playing phonograph records.

By Mr. MILLER.—I move to strike out all that portion of the answer beginning with the words "And then I found out from the owner," etc. to the end, on the ground that the same is hearsay.

(Deposition of Camillus A. Senne.)

Q. 55. Did you see the Kaiser horn on the market elsewhere?

A. Yes, I saw that horn in several places and in one particular place on Chambers Street, the Douglas Phonograph Company who sold almost nothing else but Kaiser horns. Of course, these horns were sold under another name, the Mega horn.

Q. 56. What differences existed between the Kaiser horn which you owned and the metal and paper horns which you manufactured, so far as the shape of the horns is concerned?

A. There is a little difference in the shape of the Kaiser horn and the horns I manufactured. The metal and paper horns were a trifle more flaring than the paper horns manufactured by a certain party named Kaiser. But in regard to construction otherwise, the Kaiser horn was a stronger and better made horn and a better sounding horn.

Q. 57. From your experience in the manufacture or use of horns for phonographs, what did you find to be the relative merits of the different materials used in making horns, with respect, especially, to the reproduction of sound from a phonograph record?

By Mr. MILLER.—Objected to as incompetent, irrelevant, and immaterial and calling for an opinion on a subject concerning which the witness is not qualified on the ground that no sufficient foundation is laid.

A. I found in comparing a metal horn and a paper horn in playing phonograph records that the paper horn was far superior over the metal horn as it produced a clearer sound, doing away entirely with the

(Deposition of Camillus A. Senne.)

rattling as found when playing through a horn made out of metal.

Q. 58. Did you compare the metal horns manufactured by you with the paper horns manufactured by you and with the Kaiser horn owned by you, in this respect? [396]

A. I compared my horns both of metal and paper, also the Kaiser horn and several other horns, those manufactured by the National Phonograph Company, and I had also a number of dealers comparing my paper horn against the metal horn and the horn manufactured by Kaiser and they all declared that the paper horn was the best in regard to sounding quality.

By Mr. MILLER.—I move to strike out the latter portion of the answer.

Q. 59. Aside from what you learned from the manufacture of horns for phonographs, did you study or observe the acoustic qualities of such horns?

A. Yes, being to my interest in producing a better horn, I constantly experimented with all different makes; and I found that the paper horn gave a clearer and more distinct sound than any metal horn.

Q. 60. Please state the effect in a metal horn for phonographs of the longitudinal ribs formed by joining together the edges of the tapering strips composing the horn?

By Mr. MILLER.—Same objection as before.

A. In joining together the longitudinal edges to tend to stiffen the horn, it is absolutely necessary to

(Deposition of Camillus A. Senne.)

have some kind of a joint to hold the horn in a rigid position.

Q. 61. Have the longitudinal ribs formed by joining together the edges of the tapering strips any other effect in a horn for phonographs, other than the mechanical effect described by you?

By Mr. MILLER.—Same objection as before.

A. No, they have not.

Q. 62. How did you come to use the metal strips to join together the edges of the tapering sections of paper in horn for phonographs made by you?

A. In the experimenting, making a cheaper horn and making it out of paper, I used glue and paper to hold the edges of the tapering [397] strips together, but I found that the same did not work well owing to the slow setting of the glue; and while looking round for some other method, I came across a phonograph box, a box which the records are held in and stored on shelves in phonograph stores. This box was fastened together on the corners with metal-staying material; and I looked up the manufacturer of this material and procured a quantity of the same and I found it worked out to great advantage over anything used before; and I continued using the same staying material until I discarded same in favor of gummed paper, that is, paper previously gummed and put up in rolls.

Q. 63. Aside from the metal horns manufactured by you, did you ever see any considerable number of metal horns made of tapering strips, having their edges turned up so as to form flanges, which were

(Deposition of Camillus A. Senne.)
soldered together, upon the market?

A. No, the horns made by us and the horns made by Nielsen were the only two horns that were so constructed. All the horns were fastened together by lock seams.

Q. 64. Aside from the six hundred horns which Mr. Krabbe showed you in Brooklyn, as testified by you, did you see any number of Nielsen horns of the construction mentioned in the previous question?

A. Yes, I saw a few here and there. And about the only store that sold them in any large quantities was the Bettini Phonograph Company.

Q. 65. For how long a time did you continue to see any of these Nielsen horns?

A. About the time I put out my paper horns all the rest of the manufacturers of horns were manufacturing horns of metal, but they were lock-seamed and the manufacturers were enabled, owing to the easy construction, to sell them very low and right after that the Nielsen horn and the horn constructed and put together the way Nielsen did disappeared from the market.

Q. 66. And did you see any Nielsen horns on the market after Mr. [398] Krabbe exhibited to you the six hundred rusty horns in Brooklyn?

A. Yes, I saw a number of horns that were bought by stores previous to my visit to Brooklyn, but the demand by the trade was for paper horns and horns manufactured with the lock seam, owing to the cheapness.

Q. 67. Please state whether your visit to Brooklyn

(Deposition of Camillus A. Senne.)

to see the six hundred rusty Nielsen horns took place before or after the time that Mr. Stickney mailed to you the contract proposed by the United States Horn Co.?

By Mr. MILLER.—Question objected to as leading and suggestive and not the proper way to elicit facts.

A. My visit to Brooklyn happened after I received the proposed contract from Mr. Stickney.

Q. 68. Did it happen before or after the time that Mr. Krabbe threatened you with contempt proceedings when the woman purchased the phonograph records and horn?

By Mr. MILLER.—Same objection.

A. It happened after that time.

Q. 69. How long after?

By Mr. MILLER.—Same objection.

A. About ten to fourteen days.

Q. 70. In answer to Q. 48 you said that Mr. Krabbe came to your house and invited you to go over to Brooklyn to inspect the six hundred horns. How long after Mr. Krabbe gave you this invitation did you make the visit to Brooklyn?

By Mr. MILLER.—Same objection.

A. About ten to fourteen days, as Mr. Krabbe called at my house the same night as that woman purchased the phonograph horn.

Direct examination closed.

Cross-examination by Mr. MILLER.

XQ. 71. Under what business name did you carry on the horn business testified to on your direct examination?

(Deposition of Camillus A. Senne.)

A. From the very beginning of the manufacture of horns the business [399] run under the name of Peter E. Petersen and Camillus A. Senne. About four months after we took over the title of Nova Phonograph Horn Company.

XQ. 72. Was Mr. Petersen your partner in that business? A. Yes, sir.

XQ. 73. Where had Mr. Petersen been working before he went into the horn business with you?

A. He did not go into the business with me. I went into business with him.

XQ. 74. You mean he was in the business first before you went in with him? A. Yes.

XQ. 75. Where was he carrying on that business before you went in with him?

A. At 401 West 124th St.

XQ. 76. Had he ever worked for Mr. Peter C. Nielsen or with him? A. No, sir.

XQ. 77. You did not know as a fact then, did you, that Mr. Petersen worked with Mr. Nielsen while Nielsen was manufacturing horns?

A. I know for a fact that he did not work for Mr. Nielsen.

XQ. 78. What nationality was Mr. Petersen?

A. Mr. Petersen is an American citizen. I believe he was born in Denmark.

XQ. 79. Was Mr. Petersen acquainted with Mr. Nielsen? A. Absolutely not.

XQ. 80. Is Mr. Petersen living now?

A. Yes, sir.

(Deposition of Camillus A. Senne.) -

XQ. 81. Where does he live and in what business is he?

A. He lives with me at 807 Whitlock Ave., the Bronx. He is vice-president of the Reliable Gummed Tape Co.

XQ. 82. I believe this last-named company is your own company with which you are now engaged in business?

A. Our business was incorporated.

XQ. 83. What position do you hold in the company?

A. I am president and treasurer.

XQ. 84. In what year was the company incorporated? A. In the year 1908. [400]

XQ. 85. And under the laws of what state?

A. Of New York.

XQ. 86. What is your own nationality or birthplace? A. I was born in Germany.

XQ. 87. At what place? A. At Ferrette.

XQ. 88. In what year did you come to the United States? A. In the year 1893.

XQ. 89. When did you give up the phonograph horn business?

A. In the latter part of 1906 or the early part of 1907.

XQ. 90. What business did you go in then?

A. I did not go into any business as I had been in business selling phonographs and records, and I kept on doing the same.

XQ. 91. Did you sell out your horn business?

A. Yes, sir.

(Deposition of Camillus A. Senne.)

XQ. 92. To whom?

A. I can't recall the man's name.

XQ. 93. Can you recall the date?

A. I can't recall the date, but I know and I believe it was in the early part of 1907.

XQ. 94. Where was your place of business for the manufacturing of these horns, from the beginning to the time you sold out?

A. We started in at 401 W. 124th St. We then moved to No. 2 Manhattan St., and then to No. 22 Manhattan St.

XQ. 95. From whom did you rent the store at 401 W. 124th St.?

A. It was not a store but a loft. From a party by the name of Noel.

XQ. 96. And did you say that that building was destroyed by fire?

A. That building was destroyed by fire, or part was destroyed by fire, a number of times, but it was not there where our records and papers burned up. It was in a fire at 496 East 134th St.

XQ. 97. When did you move your business from 401 West 124th St. to No. 2 Manhattan St.?

A. Some time in the year 1905.

XQ. 98. Who was your landlord at No. 2 Manhattan St.?

A. The real landlord was the Astor Estate but we sublet from a [401] party by the name of Schwartz.

XQ. 99. When did you move from there to 22 Manhattan St.? A. In the year 1906.

(Deposition of Camillus A. Senne.)

XQ. 100. And was that the last place at which you carried on the business of manufacturing these horns?

A. No, sir. The last place we manufactured horns was at No. 22 Manhattan St.

XQ. 101. Who was your landlord at No. 22 Manhattan St.?

A. A party by the name of Mills.

XQ. 102. Now you spoke of your books, records and documents being destroyed by fire at 496 E. 134th St. How did those books, papers and records happen to be at that place and when were they destroyed?

A. All the papers were moved to 134th St. and we moved the balance of our business and we occupied the top floor that was completely destroyed by fire, which I believe was in the year 1909.

XQ. 103. Do you mean that the books and papers were stored there at the time of the fire?

A. There were stored there.

XQ. 104. Then, if I understand you correctly, you had gone out of the horn business and had stored these books, papers and records at this place in 134th St., where they were afterwards destroyed by fire?

A. Yes, sir.

XQ. 105. You spoke on direct examination of having delivered two horns from which these photographs were made to Mr. McCoy. Who is Mr. McCoy?

A. Mr. McCoy called on me and asked me if I was able to give him those horns, and I understood at that time, that he was employed by the Edison Com-

(Deposition of Camillus A. Senne.)

pany. Farther than that I don't know the gentleman.

XQ. 106. Did he offer to pay you for these horns?

A. He did not.

XQ. 107. Did you give him the horns?

A. The one horn that was fastened together by paper strips and was in very bad condition I told him he could keep, but the other horn belongs to a relative of mine and was simply loaned to him. [402]

XQ. 108. Now are you willing to give me one of those horns if I call at your place so that I can have the use of one as well as the other side?

By Mr. HICKS.—The two horns produced by Mr. Senne are at present in the possession of the Pacific Phonograph Company in San Francisco, Cal., and if complainant's counsel desires he can obtain permission from me to inspect those horns at any time. Furthermore, the complainant's counsel has photographs of each, furnished to him by me.

A. If I have any more you will be entirely welcome to them.

XQ. 109. Have you any more?

A. No, sir, but I believe that a few of them could yet be found in the different stores of the city.

XQ. 110. Is Mr. McCoy, to whom you referred, a detective in the employ of the Edison Company?

By Mr. HICKS.—Objected to as calling for hearsay testimony, it not appearing that the witness knows by whom Mr. McCoy is employed or anything about Mr. McCoy except what Mr. McCoy told him.

(Deposition of Camillus A. Senne.)

A. I do *not* what position he holds with the Edison Company.

XQ. 111. When he called on you did he represent himself as coming from the Edison Company?

By Mr. HICKS.—Same objection.

A. He did not.

XQ. 112. What did he represent to you?

By Mr. HICKS.—Same objection, also as incompetent, irrelevant and immaterial and as not cross-examination.

A. He asked what I knew about the horn business, and I gave him a full explanation of what experience I had, and he then asked me if I would be kind enough to loan him the two horns. I did not ask him whom he represented but simply asked him who was bringing the suit and that is where the matter ended. By him mentioning his name, I understood from another party that he was employed by the Edison Company.

[403]

By Mr. HICKS.—The last sentence of the answer is objected to as hearsay and defendant moves to strike it out on that ground.

XQ. 113. Did you have in your possession at that time the first of those horns, that is to say, the one with the metal ribs? A. I did not.

XQ. 114. Who did have it and where did you get it?

A. I borrowed that horn from a relative, a party by the name of Mrs. Ferguson, who lives at 522 West 123d St.

XQ. 115. I apprehend then after Mr. McCoy in-

(Deposition of Camillus A. Senne.)

terviewed you you went up to this relative of yours and borrowed the horn from her and delivered it to Mr. McCoy? Is that correct?

A. No, sir. Mrs. Ferguson's brother works in our factory and I simply asked him to bring the horn over in the morning on his way to work. When Mr. McCoy called the second time I turned it over to him with instruction to return it because Mrs. Ferguson thinks a whole lot of the horn, because the horn has been over to Europe a couple of times and back again.

XQ. 116. Do you know where I could procure one of those horns for myself?

A. I think I do.

XQ. 117. Where?

A. I think in one of the phonograph stores in the Bronx, a certain Mr. Blackman, who is the owner of the store, I believe he has a few of them.

Cross-examination closed.

Redirect Examination by Mr. HICKS.

RDQ. 118. Mr. Stickney, in his affidavit verified November 9, 1905, sets forth that you had then stated that you had sold your horn business, including unfinished and finished horns, tools and goodwill to a certain concern. Is it true that at that date, November 9, 1905, you had made such a sale?

A. I cannot recollect making any such statement. Furthermore, I did [404] not make a sale at that date and did not intend to sell the business, not until I was advised from a party knowing the inside of the National Phonograph Company, that they were about to include a large horn with each talking

(Deposition of Camillus A. Senne.)

machine and put the same on the market as an outfit and seeing then that there was not much show for me to manufacture horns and after receiving such information I looked around to find a buyer for the horn plant, and I sincerely believe I made a sale in the early part of 1907, long after my visit to Mr. Stickney.

Redirect examination closed.

Deposition closed.

Signature of the present witness and of the preceding witnesses waived.

By Mr. MILLER.—The reason why I was not present at 2 P. M., on September 20, 1913, to cross-examine the witness, Frank H. Stewart, as per former agreement to that effect was that I was sick at the time and could not attend. I note on the record the statement by Mr. Hicks that he requests me to proceed with the cross-examination of Mr. Stewart on September 24, 1913, in Philadelphia, Pennsylvania. I cannot agree to this but request that Mr. Stewart be produced here in New York for cross-examination at some day more satisfactory to him so that his deposition may be taken in accordance with the notice given.

By Mr. HICKS.—Defendant's counsel hereby gives notice to plaintiff's counsel that Frank H. Stewart will be produced for cross-examination on September 24, 1913, at 11:00 o'clock in the forenoon at the office of Horace Pettit, Esquire, room No. 705, Witherspoon Building, Walnut, below Broad St., Philadelphia, Pa., in accordance with the

(Deposition of Camillus A. Senne.)

notice set forth on the record on September 20, 1913, for the reasons there stated. There is no reason why the defendant should bear the expense of producing Mr. Stewart again in New York.

By Mr. MILLER.—I do not accept such notice as sufficient and unless the witness is produced here for cross-examination in accordance with the original notice I shall move to strike out his direct examination as an uncompleted deposition. [405]

By Mr. HICKS.—Complainant's counsel is requested to specify the defect of the notice and if there is any defect in the notice the defect will now be remedied. Under the Statute, in accordance with which these depositions are being taken defendant is entitled to take the depositions of a witness and to give notice to the other side after the direct deposition has been taken.

By Mr. HICKS.—As plaintiff's counsel refuses to specify any defect in the notice, defendant's counsel assumes that there is no defect.

Adjourned to Sept. 25th, 1913, 11 A. M., for the further taking of depositions at 233 Broadway, New York City.

September 25, 1913.

Met pursuant to adjournment.

Present: FREDERICK S. DUNCAN, Esq., Counsel for Plaintiff.

LOUIS HICKS, Counsel for Defendant.

[Deposition of Ellsworth A. Hawthorne, for Defendant.]

ELLSWORTH A. HAWTHORNE, being duly sworn as a witness on behalf of defendant, testifies as follows:

Direct Examination by Mr. HICKS.

Q. 1. Please state your name, age, residence and occupation.

A. Ellsworth A. Hawthorne; 47; Bridgeport, Conn.; manufacturer of automobile accessories.

Q. 2. Please state what experience you have had in the manufacture of horns for phonographs and similar machines.

A. My manufacturing experience dates from about 1894. It was in 1894 that the concern of Hawthorne & Sheble made a contract with Edward F. Leeds and entered the phonograph business. In 1895 we had some correspondence with Mr. Leeds in connection with our manufacturing phonograph horns, he claiming that under contract we were not allowed to manufacture. This matter, however, was settled satisfactorily and from that date forward the firm of Hawthorne & Sheble and later the Hawthorne & Sheble Manufacturing Co. were undoubtedly the largest manufacturers of phonograph horns in the world. [406]

It was our effort to improve the reproduction from the phonograph and we gave particular attention to the horn. In 1895, 1896 and 1897 horns were manu-

(Deposition of Ellsworth A. Hawthorne.)

factured for Hawthorne & Sheble by La Forrestier and Son, we contracting with them to take their entire output of horns for phonograph use. This concern were primarily makers of band instruments. The types of horn made for us at that time by La Forrestier were horns that tapered throughout their entire length. Were made in sections and brazed or soldered together. We specialized on this particular type of horn for several years. Later we established our own manufacturing plant although at the same time using the product of La Forrestier. I understand that both father and son are dead. Later, when Hawthorne & Sheble increased their manufacturing facilities they engaged the services of one of the workmen of La Forrestier, by name, Eugene Domage. His last known address was 830 Callowhill St., Philadelphia, and he may be there at this time. Domage was in our employ for a considerable period of time, continuing the manufacturing for Hawthorne & Sheble of the type of horn referred to, i. e., one that tapers through its entire length, made of tapered and curved sections and brazed or soldered together.

Hawthorne and Sheble made various types of horns, producing various models from time to time in an effort to increase their horn business by attractiveness of design, character and quality of horn.

On the advent of the Graphophone Grand in 1898 and 1899 they specialized on horns adapted to this particular make of talking machine and produced horns of brass, silveroid, zinc, white metal, alu-

(Deposition of Ellsworth A. Hawthorne.)

minum, fiber papier-maché. A number of these horns manufactured by us previous to the year 1902 were about thirty-six to forty inches in length, tapered throughout and with a bell varying from twenty and a half or less to thirty-six inches. [407] The brass and some of the other types of horns were made of metal strips tapering and curved soldered together, whereas the aluminum horns were made with longitudinal ribs as it is a well-known fact that aluminum is not adapted to successful soldering or brazing. In fact we advertised in our catalogue that no solder was used in our aluminum horn.

We sold horns of the type referred to above to many of our customers and particularly to the following:

Pardee-Ellenberger, New Haven, Conn.

Mr. Ellenberger in conversation with me yesterday stated that he well recollects the type of horn, their purchase of same and that it was previous to 1901. We also sold the same type of horns to M. M. De Karpoff, St. Petersburg, Russia, having shipped same through Seligman and Company, Bankers.

Eastern Talking Machine Co., Tremont St., Boston, Mass.

Thomas Wardell, Lowell, Mass.

Murray Blanchard, Young Co., Providence, Rhode Island.

J. A. Foster & Co., Providence, Rhode Island.
and many other concerns.

I recollect particularly demonstrating the type of horn referred to to Mr. Douglas of Douglas & Co.,

(Deposition of Ellsworth A. Hawthorne.)

New York City, which I think was in the year 1901. It may have been 1900. At any rate it was some little time prior to Mr. Douglas's death.

We made a specialty, previous to the year 1900, of horns, of large dimensions, for exhibitor's purposes. One type of horn was made in several sections, these sections being ribbed longitudinally and portions of the horns tapering throughout its entire length. These horns were purchased from us by the Penn Phonograph Company of South 9th St., Philadelphia, and previous to the year 1900 were sold for us by Mr. T. W. Barnhill and Mr. Miller, at the present time officers of the Penn Phonograph Co., South 9th St., Philadelphia. In 1899, 1900 and 1901 we sold a large number of flower [408] horns made in imitation of a morning-glory. These horns were made of glass and had scalloped edges. The horns manufactured by us curved throughout their entire length and with tapering sections with longitudinal ribs were supplied necessarily at that time with circular bells or at least the outer edge of the horn, or large opening, was circular in form. It was not until later that the scalloped edge metal horn was manufactured by us.

Shortly after the fiber horns made by John Kaiser made its appearance we manufactured horns of papier-maché, tapering throughout their entire length, also fiber horns with riveted seams. In referring to the type of horn manufactured by us tapered throughout its entire length I refer to a copy of the *Phonographische Zeitschrift*, dated Ber-

(Deposition of Ellsworth A. Hawthorne.)

lin, May 20th, 1903, and call particular attention to the horn shown on p. 276. This is the type of horn of which we manufactured large numbers. Also on p. 286 is shown another type of horn of which we manufactured a large number. This horn tapers throughout its entire length and is made in sections.

We have, in our possession, at the present time, the old steel mandrels which were made in 1899, on which we formed this type of horn. I have several of these mandrels in my possession and I also have mandrels on which leaves were formed tapering throughout their length, wide at one end and narrow at the other.

By Mr. DUNCAN.—Objection is made to the statement of the witness in his last answer in regard to an alleged conversation with Mr. Ellenberger on the ground that the statements of the witness are incompetent and hearsay and objection is made to the witness's reference to the contents of an alleged circular or catalogue issued on the same ground.

By Mr. HICKS.—Defendant's counsel requests the witness not to state any conversations which he had with others unless those conversations took place prior to April 14, 1904.

Q. 3. In your answer to Q. 2 you fixed the date when the firm of Hawthorne [409] & Sheble entered the phonograph business by reference to a contract made with Edward F. Leeds. Can you refer to that contract and give the exact date thereof?

A. By agreement dated the 20th October, 1894, between Edward F. Leeds, Ellsworth A. Haw-

(Deposition of Ellsworth A. Hawthorne.)

thorne and Horace Sheble. The agreement referred to is the original formally executed by me.

Q. 4. At the time of that contract, October 20, 1894, was Mr. Edward F. Leeds engaged in the phonograph business; and if so, please state where and what the nature of his business was.

A. Yes, at 604 Chestnut St., Philadelphia. The firm of Hawthorne & Sheble leased a portion of their store premises to the North American Phonograph Company, of which Mr. Leeds was Philadelphia manager. When the North American Phonograph Company failed we entered into negotiations with Mr. Leeds to continue the phonograph business in the same location.

Q. 5. Had the North American Phonograph Co. failed prior to Oct. 20, 1894.

By Mr. DUNCAN.—Objected to as leading.

A. Yes.

Q. 5. As a result of the contract of Oct. 20, 1894, with Edward F. Leeds what, if anything, did the firm of Hawthorne & Sheble acquire with regard to things connected with the phonograph?

A. We acquired practically all the stock on hand in that portion of our premises leased to them, which included a large number of phonograph horns of various types, including parts, phonographs, records, cabinets and horn stands and general merchandise used in the phonograph business.

Q. 6. In your answer to Q. 2 you referred to correspondence had with Mr. Leeds in connection with your manufacture of phonograph horns. Will you

(Deposition of Ellsworth A. Hawthorne.)

refer, if you can, to any letter forming part of said correspondence and fix the exact date of the correspondence. [410]

A. I have an original letter in my possession addressed to Mr. E. F. Leeds, dated February 26, 1895, in which it is stated that we are manufacturing phonograph horns.

Q. 7. Are the horns referred to in the letter of February 26, 1895, characterized in any way?

A. The horns referred to in that letter were the type of horn being made for us at that time by La Forrestier and Company.

Q. 8. What I asked was whether the letter itself characterizes the horns referred to, in any way.

By COMPLAINANT'S COUNSEL.—I ask that the letter be marked for identification so that if it seems important the letter may be offered in evidence rather than to have its contents stated or paraphrased by the witness.

A. The letter has particular reference to the large horns that we were at that time producing and has particular reference to our manufacture of that type of horn.

Q. 9. By what individual was the letter signed?

A. Mr. Horace Sheble.

By Mr. HICKS.—The letter of Feb. 26, 1895, to E. F. Leeds, signed by Horace Sheble, is handed to plaintiff's counsel and if plaintiff's counsel desires to encumber the record it will be offered in evidence by defendant, although the letter has been referred to merely to refresh the recollection of the witness.

(Deposition of Ellsworth A. Hawthorne.)

By Mr. DUNCAN.—Complainant's counsel asks that the letter in question be marked for identification, or if defendant's counsel is not willing that it be so marked then that it should be offered in evidence, complainant's counsel agreeing that a copy may be substituted for the original.

By Mr. HICKS.—A copy of the letter referred to is offered in evidence and marked "Defendant's Exhibit, Letter of February 26, 1895, from H. Sheble to E. F. Leeds, Frank Z. Demarest, Examiner."

Q. 10. In your answer to Q. 2 you spoke of horns made for Hawthorne & Sheble by La Forrestier & Son, that tapered throughout their entire length and that they specialized on this particular type of horn. Please state whether the firm of Hawthorne & Sheble itself manufactured this particular kind of horn.

[411]

A. Yes. We engaged the services of one of La Forrestier workmen to continue making this type of horn for us.

Q. 11. When did the firm of Hawthorne & Sheble begin to manufacture this type of horn?

A. In 1898.

Q. 12. Please describe the method or process and the tools by which this particular type of horn was manufactured by the firm of Hawthorne & Sheble beginning in 1898.

A. The metal was cut in long tapering curved strips, wide at one end and narrow at the other end. After cutting the metal was placed on a curved mandrel that tapers throughout its entire length and the

(Deposition of Ellsworth A. Hawthorne.)

exact curvature and taper of the horn was thus accurately obtained. In the process of manufacture the metal strips were hammered into shape and it was due to this process that the term "Hammered Brass Horns" was used. After the strips of metal were cut and formed they were brazed or soldered together except in instances where we used aluminum or fiber or tin.

Q. 13. At the beginning of your last answer you said that "the metal was cut in long tapering curved strips." How did the strips curve?

A. The edges or what you might term the sides of the strips were curved.

Q. 13. What was the purpose of cutting the sides of the metal strips so that they curved?

A. This was necessary in order to obtain the form of horn we desired.

Q. 14. What form of horn did you actually obtain by cutting the metal strips so that the sides thereof curved?

A. A horn with a large bell at one end or opening and a small opening at the other end. These horns tapered throughout their entire length as the diameter of the opening at one end was about one inch whereas the diameter of the opening of the large end varied from six inches to 36 inches. [412]

Q. 15. At the end of your answer to Q. 12 you said that the strips of metal were brazed or soldered together except in instances where you used aluminum or fiber or tin. What was done when aluminum was used?

(Deposition of Ellsworth A. Hawthorne.)

A. These were formed with longitudinal ribs formed with what is known as the tinsmith's brake and then rolled with rolls so as to flatten the seams. We manufactured these horns in very limited quantities in the initial stages and we used rawhide mallets for clinching the seams.

Q. 16. What difference, if any, is there between "the tinsmith's brake" and the lock seam?

A. The tinsmith's brake is a tool used to make the tinsmith's lock seam.

Q. 17. What did you do when you used fiber?

A. We used rivets. For this purpose we also made use of a special riveting device which we at that time rented of Stimson Company of Brooklyn, N. Y.

Q. 18. When you riveted the edges of strips made of fiber, how did you bring the edges of the fiber strips together preparatory to riveting them?

A. The fiber strips were cut in sections, the edges brought together and overlapped and holes punched through the two pieces of fiber and riveted together.

Q. 19. Is there any term by which such a union or seam is known?

A. None other than simply the word "riveting" as applied thereto.

Q. 20. Would the expression "lap seam" describe the manner in which the strips were brought together preparatory to riveting, as described by you?

A. It would.

Q. 21. What did you do when tin was employed?

A. We used the tinsmith's brake and formed a longitudinal tinsmith's rib. This is identical with

(Deposition of Ellsworth A. Hawthorne.)

the method so long in use for making [413] stove-pipes.

Q. 22. What difference, if any, is there between the expression "tinsmith's rib" and the tinsmith's lock seam?

A. They are both expressions used by workmen to signify the same thing.

RECESS.

Q. 23. In your answer to Q. 2 you spoke of horns made from aluminum by the firm of Hawthorne & Sheble. Please describe the method and process and the tools by which Hawthorne & Sheble made these horns of aluminum.

A. The aluminum was cut in tapered strips. The edges were joined together with a longitudinal tinsmith's or what is known as the lock seam. The horns were tapered throughout and were made of various dimensions from 14 inches in length up to and exceeding 42 inches in length with large openings of various diameters from 6 inches in diameter to 36 inches in diameter. The strips of aluminum were wide at the one end and curved and tapering to the narrowest point. The tools used were tinsmith's cutting hand shears for cutting out the metal form which was done with templets. The metal was turned over on the edge in some instances with a tinsmith's brake and in others, with curved mandrels or forms where the horns were required to be tapered throughout their lengths.

Q. 24. In answer to the last question you stated that the strips of aluminum were curved. How were

(Deposition of Ellsworth A. Hawthorne.)
these strips curved?

A. The strips of metal were curved on the edges and the strips tapered from one end to the other.

Q. 25. What was the purpose of making the strips of aluminum curved along their edges?

A. So as to make a horn tapering throughout its entire length.

Q. 26. In making these horns from strips of aluminum, did you use a mandrel or form; and if so, please describe the mandrel or form [414] and the manner of its use.

A. The mandrels were tapered, were made of cast steel and were generally of the curvature desired in the finished product.

Q. 27. Of how many strips of aluminum did the horns made by the firm of Hawthorne & Sheble as described by you consist?

A. From 2 to nine, according to the size horn desired.

Q. 28. When did the firm of Hawthorne & Sheble begin to make horns of strips of aluminum in the manner described by you? A. 1898.

Q. 29. Please give a definite description of the shape of the horn of aluminum made in the manner described by you by the firm of Hawthorne & Sheble beginning in the year 1898.

A. I think the best idea can be obtained from a Kaiser horn. We attempted to imitate that type of horn in metal, brass, aluminum, etc. So as to give a fixed idea of the type of horn I am referring to I now refer to the type of horn shown on p. 276 of the

(Deposition of Ellsworth A. Hawthorne.)

Phonographische Zeitschrift, dated Berlin, May 20, 1903. The horn I refer to is the center of the three illustrated on p. 276. I have designated this horn by writing opposite thereto my initials "E. A. H." and the present date, 9/25/13.

Q. 30. Did you produce these pages, 275, 276, 285 and 286 of the Phonographische Zeitschrift for May 20, 1903? A. I did.

Q. 31. Please state when and how you obtained the same.

A. I received same direct from the publishers through the mail and it probably reached me some time in the early part of June, 1903.

Q. 32. Where did you receive these pages of that publication?

A. At my place of business in Philadelphia.

Q. 33. Where have these pages of that publication been since you received them in the early part of June, 1903?

A. In my library along with other and similar publications.

By Mr. HICKS.—The pages of the publication referred to are offered in evidence and marked "Defendant's Exhibit, Phonographische Zeitschrift, Published in Berlin, May 20, 1903, Frank Z. Demarest, Examiner." [415]

Q. 34. On p. 276 of the exhibit just offered in evidence appear the following words beneath the horn marked with your initials and the present date:

(Deposition of Ellsworth A. Hawthorne.)

“Specialitat: Phonographen-Trichter in Aluminium, Messing etc. etc.”.

These words translated into English apparently mean:

“Specialty; phonographic funnel (horn) in aluminum, brass, etc. etc.”

Assuming that aluminum is used in the manufacture of the horn marked with your initials and the present date, can you state by what method that horn was made to secure a horn of that shape?

By Mr. DUNCAN.—Objected to as hypothetical and as founded on no proof that would justify the inquiry.

A. The method of manufacture of this horn might vary according to the methods of the manufacturer, the length and diameter, of the horn, etc. Very small horns of that shape and type could probably be formed by spinning but this is not possible with larger horns on account of the depth of the draw.

Q. 35. Was there any method employed by the firm of Hawthorne & Sheble, prior to May 20, 1903, in the manufacture of horns of aluminum, having the shape like the shape of the horn marked with your initials and the present date?

A. Our method of manufacture has been previously described by me, consisting of cutting the strips of metal to form. Constructing the tinsmith or lock seam by forming the same with hand tools when machine tools could not be employed and permanently securing the seams by use of a beating machine, raw-hide mallets used by hand. The Peckstow & Wilcox

(Deposition of Ellsworth A. Hawthorne.)

Co. of Stonington, Conn., have manufactured tools for this class of work to be operated by hand and by power for probably the last forty years.

Q. 36. Please state, if you know, whether or not it is possible, in a practical way, to join together strips of aluminum by means of solder or other similar material. [416]

A. From time to time claims have been made that a flux has been found and compounds prepared that will enable the successful soldering of aluminum, but I have tried such propositions, covering a manufacturing experience of 15 or 18 years and gave it up long ago. This is due to the fact that aluminum is a very greasy metal and solder separates most unexpectedly. The joints will not hold permanently together.

Q. 37. In your answer to Q 10-15, inclusive, you described the method or the process by which the firm of Hawthorne & Sheble, beginning in 1898, manufactured horns from tapering strips of metal, curved at their edges, by brazing or soldering together the edges of the tapering curved strips of metal. Please state how many of such strips of metal were employed by the firm of Hawthorne & Sheble in manufacturing such horns in the manner described by you.

A. From two to nine, according to the sized horn desired.

Q. 38. Please look at U. S. Patent No. 735,815 of April 21, 1903, to Barnes and particularly to Fig. 3 thereof; and state whether the firm of Hawthorne & Sheble ever manufactured horns for phonographs

(Deposition of Ellsworth A. Hawthorne.)

like the horn shown within the casing illustrated in Fig. 3.

A. I have examined the patent above referred to. Hawthorne & Sheble Manufacturing Co. manufactured for the Ohio Talking Machine Co. of Toledo, Ohio, with which Mr. Barnes is connected, horns of a type identical to that shown in the illustration. These horns were made in sections and were telescopic.

Q. 39. Please describe the manner in which the different sections of the telescopic horn were made by the Hawthorne & Sheble Mfg. Co.

A. Each section was a tapered section and each section was secured together with longitudinal rib seams.

Q. 40. Please describe the number of sections employed and the form of the edges or sides of the sections.

A. My impression is that the edges of this particular type of horn were tapered but not curved. I do not recollect how many. [417]

Q. 41. In your answer to Q. 2 you referred to a fiber horn made by John Kaiser. Please look at "Defendant's Exhibit, Phonograph of Kaiser Horn of 1898," and state whether the Kaiser horn referred to by you was similar to or different from the Kaiser horn shown in that exhibit.

A. It was similar in shape and other features, such as having been made of several sections of metal. Our horns were made with the lock seam used in metal devices, whereas the Kaiser horn differs in

(Deposition of Ellsworth A. Hawthorne.)

view of its probably being glued or pasted together in sections.

Q. 42. In your answer to Q. 2 you stated that shortly after the fiber horn made by John Kaiser appeared you manufactured horns of papier-maché, tapering throughout their entire length, also fiber horns with riveted seams. Do you mean by your last answer that you also made similar horns of several sections of metal?

A. The aluminum horn that I have had reference to in my testimony was a horn in as close imitation of the Kaiser horn as we could make it out of metal. The papier-maché horns were made by a man we employed by the name of Hermann, who at that time resided in Catony, Penn. These horns were formed over a mold and were almost exactly the shape of the Kaiser horn.

Q. 43. Please look at the Nielsen Patent in suit, No. 771,441, particularly Fig. 3 thereof, and state whether you ever saw a horn upon the market in this country, made of several sections of metal joined together at their edges by a seam such as that shown in Fig. 3, consisting of two upwardly-extending flanges, joined together.

A. I have a very faint recollection of having seen a horn of that character constructed in accordance with figure 3. From a manufacturing standpoint this is not a practical mechanical proposition. It, of course, can be made readily; but the horn would have an unfinished, crude appearance and on account of the method of forming the external ribs it would

(Deposition of Ellsworth A. Hawthorne.)

probably separate or the metal not being [418] fastened securely together would probably cause the horn to rattle. I do not think a horn constructed in accordance with the drawings referred to is a good manufacturing proposition, and not as well adapted for phonograph reproducing purposes as either the all-brazed horn or the horn constructed with the tinsmith lock seam. I have made a study of phonograph sound reproduction for almost twenty years. There is absolutely no foundation whatever in the claim that a horn made with longitudinal ribs will reproduce phonographic music or otherwise superior to other types of horn.

Q. 44. Were you familiar with the horns for phonographs upon the market in this country for a period of years?

A. I have been familiar with all types of horns since 1887, when the phonograph was first brought to me by the North American Phonograph Company and they requested me to use it in my shorthand work. I have been interested in phonographic reproduction up to about 1909 as a business.

Q. 45. When did the firm of Hawthorne & Sheble cease to do business as a copartnership?

A. In the year 1900; it was April 20th, 1900.

Q. 46. When did the corporation of Hawthorne & Sheble Mfg. Co. begin to do business and when did it cease to do business?

A. It started business on the date of incorporation, April 20th, 1900, and discontinued in June, 1909.

Q. 47. During the time that you were familiar with

(Deposition of Ellsworth A. Hawthorne.)

horns for phonographs in this country, from 1887 to 1909, did you ever know of a horn going into use, having seams consisting of flanges, such as are shown in Fig. 3 of the Nielsen Patent in suit?

A. I do not recollect a horn in general use constructed as per the drawings shown in the patent.

Q. 48. Have you in your experience with horns for phonographs made any tests of the sound-producing qualities of such horns?

A. I have tested every type of horn that has been offered to the public and as they appeared. Each maker claimed particular advantages for his type of horn. The successful reproduction, however, [419] depends upon the dimensions more than on any other feature.

Q. 49. Please describe the manner in which you tested the sound-producing qualities of different horns for phonographs, either by yourself or with others.

A. There were faddists with horns the same as in motor cars. It was my business in selling horns to produce a horn that would suit the idea of the purchaser. In actual comparative tests, however, when it was desired to obtain results, it was my custom to seat the listener with his back towards the horn and then ask them to designate which type of horn was in use. My theory was that the eye largely determined the type of horn they preferred as it was more in harmony with their ideas. I have frequently had horns brought to me for test purposes and have tested such horns against an ordinary type of horn

(Deposition of Ellsworth A. Hawthorne.)

as being the best more often than they have selected their particular model.

Q. 50. Is there any difference in the sound-producing qualities of a horn by reason of the construction of a horn with one rib or with two or more ribs running longitudinally of the horn?

A. Absolutely none.

Q. 51. In your answer to Q. 48 you said that the successful reproduction depends upon the dimensions more than on any other feature of a horn for phonographs. Please state what dimensions of the horn you refer to.

A. The character of reproduction obtained varies according to the characteristics of the phonograph platen or record. I have found in experimenting that better results were obtained by a horn with a wide diameter at the bell when it was desired to reproduce the female voice. A base voice will reproduce satisfactorily with almost any type of horn as the records are made [420] with a slower frequency of vibration as compared to the soprano or such instruments as the piccolo.

Q. 52. I show you a photograph of p. 8 of the Talking Machine World, published in New York, N. Y., in January 15, 1905, and ask you to state whether that is an advertisement of the Hawthorne & Sheble Mfg. Co., with which you were connected.

A. It is.

By Mr. HICKS.—The photograph referred to is offered in evidence and marked "Defendant's Exhibit, Advertisement of Hawthorne & Sheble Mfg.

(Deposition of Ellsworth A. Hawthorne.)

Co. in the Talking Machine World for January 15, 1905, Frank Z. Demarest, Examiner."

Q. 53. The photograph shows two horns. Please state whether those two horns were *manufactured* Hawthorne & Sheble Mfg. Co.; and if so, please compare the sound-producing qualities thereof.

A. Yes. The upper horn illustrates the type of horn manufactured by Hawthorne & Sheble Mfg. Co., 42 inches in length and with a 24-inch bell. We manufactured similar horns 52 inches in length, 72 inches in length and with a 28 inch bell.

The lower cut illustrates the well-known type of flower horn and was about 24 to 30 inches in length with an opening at the extreme end 20 to 24 inches in diameter. I consider the horn illustrated at the top of the page a superior reproducing horn as compared to the flower horn on account of its dimensions as previously stated.

Q. 54. By what name, if any, is the upper horn known to the trade?

A. As the Black and Gold horn.

Q. 55. How many seams, if any, did the Black and Gold or B. & G. horn have?

A. This varied according to the size of the horn, one, two and more.

Q. 56. Did it make any difference in the reproduction of sound from a phonograph record whether the black and gold horn had one [421] seam or more than one seam?

A. It is impossible to detect any difference.

Q. 57. Please compare the horns made of several

(Deposition of Ellsworth A. Hawthorne.)

sections of metal brazed together at their edges, by the firm of Hawthorne & Sheble beginning in the year 1898, as described by you, with the so-called flower horn shown in the advertisement to which you have just referred with respect to the sound-producing qualities of the two horns.

A. I have always considered that the best reproducing horn for phonograph use that I have ever listened to have manufactured or known to be manufactured was the horn introduced to the phonograph used by Hawthorne & Sheble and known as the concert full-spun horn, 56 inches long, with bell from 24-30 inches in length. The horn that I refer to is not illustrated in the advertisement. The horn that I refer to as the full-spun concert horn is a horn made of several sections of metal and brazed together at their edges and what was termed by Hawthorne & Sheble in their advertisements as the full-spun horn.

Q. 58. Is the full-spun horn the horn made according to the process described in your answers to Qs. 12-14? A. Yes.

Q. 59. Please look at the paper which I hand you and state, if you know, what it is.

A. It is a circular in regard to glass horns, issued by the Hawthorne & Sheble Mfg. Co., in the year 1900.

Q. 60. Is that one of the original circulars; and if so please state who has produced the same.

A. It is. I produced it myself.

Q. 61. How long has it been in your possession?

A. Since 1900.

By Mr. HICKS.—In view of the objection made

(Deposition of Ellsworth A. Hawthorne.)
by plaintiff's counsel to "Defendant's Exhibit, Photograph of Hawthorne & Sheble Mfg. Co.'s Advertisement of Glass Horns" defendant offers in evidence the circular produced by the witness and the same is marked "Defendant's Exhibit, Hawthorne & Sheble Mfg. Co., Advertisement of 1900, of Glass Horns, Frank Z. Demarest, Examiner"; and defendant withdraws the said exhibit photograph.

Q. 62. Please state whether any question arose between Hawthorne & [422] Sheble Mfg. Co. and anyone claiming title to the Nielsen Patent in suit, No. 771,441, which I have shown to you, with respect to the right of the Hawthorne & Sheble Mfg. Co. to manufacture horns such as those shown by the lower horn in "Defendant's Exhibit, Advertisement of Hawthorne & Sheble Mfg. Co. in the Talking Machine World for January 15, 1905."

A. On Feb. 10, 1906, when the firm of Hawthorne & Sheble Mfg. Co. had located at Oxford & Mascher Sts., in Philadelphia, they received a call from one William H. Locke, Jr., of No. 46 W. 34th St., New York City, who represented that he was interested in the Nielsen Patent at issue. Mr. Locke at that time proposed a form of combination between the Hawthorne & Sheble Mfg. Co.'s interests and other manufacturers of horns. Nothing, however, came out of the interview and we did not hear from Mr. Locke again, to my knowledge.

Q. 63. Did Mr. Locke state that the Company in which he was interested owned any other patent?

A. According to my recollection he stated that

(Deposition of Ellsworth A. Hawthorne.)
they also owned the Villy Patent.

Q. 64. Did you investigate the Nielsen Patent at the time of Mr. Locke's call upon you?

A. We did.

Q. 65. What reply did you make to Mr. Locke, with reference to the Nielsen Patent?

A. I can find no evidence and have no recollection of any formal reply or statement to Mr. Locke other than the verbal statement made to him by Mr. Sheble and myself at the time he called to see us, and that was to the effect that if he desired to litigate we were prepared, although I believe we made the statement at the time if he had anything to propose after seeing the other manufacturers to let us hear from him.

[423]

Q. 66. Did Mr. Locke threaten suit under the Nielsen Patent?

A. I do not recollect his having done so.

Q. 67. Did you continue to manufacture and sell the flower horns shown by said advertisement after Mr. Locke's call upon you?

A. We did up to and until the time Hawthorne & Sheble Mfg. Co. discontinued business.

Q. 68. Was any other threat made against the Hawthorne & Sheble Mfg. Co. with respect to the Nielsen Patent here in suit?

A. Yes, on Sept. 22, 1904, a communication was received from attorney Matthew P. Doyle, threatening suit under the patent at issue.

Q. 69. In what form was this threat?

A. In a letter dated September 22d, 1904, and

(Deposition of Ellsworth A. Hawthorne.)
signed by said "Matthew P. Doyle, M. K." I produce the letter herewith.

Q. 70. When was this letter received?

A. September 24th, 1904.

By Mr. HICKS.—The letter, produced by the witness, is offered in evidence and marked "Defendant's Exhibit, Letter of Matthew P. Doyle to Hawthorne & Sheble Mfg. Co., dated September 22, 1904, Threatening Suit Under the Nielsen Patent, Frank Z. Demarest, Examiner."

Q. 71. Was any suit ever brought pursuant to Mr. Doyle's letter? A. No.

Q. 72. Have you ever known of any suit brought under the Nielsen Patent here in suit, other than the present suits against the Pacific Phonograph Company and Babson Bros., Inc., and the suit brought against Sherman, Clay & Co. recently, and all in California? A. No.

Q. 73. Do you know whether in September, 1904, and thereafter down to the present day, others than Nielsen and those claiming title to the Nielsen Patent have been manufacturing horns for phonographs like the lower or flower horn shown in "Defendant's Exhibit, Advertisement of Hawthorne & Sheble Mfg. Co. in the Talking Machine World for January 15, 1905"? [424]

A. They have. Such concerns as the Tea Tray Company of Newark, N. J., the Standard Metal Mfg. Co. of Newark, N. J., and others have manufactured these horns extensively and in volume.

Q. 74. Did the firm of Hawthorne & Sheble ever

(Deposition of Ellsworth A. Hawthorne.)

manufacture any horns or megaphones for the U. S. Navy; and if so, please state when and describe the horns.

A. We made two large horns. I understood at the time they were for the battleships "Iowa" and "Oregon" each being twelve to fourteen feet in length. These horns were made of strips of metal tapered throughout their length, with curved edges and of several sections.

Q. 75. About how many sections?

A. That I do not recollect, but there must have been several on account of the nature of the construction of the horn and their immense size. We made a photograph of the horns at the time, but I have not been able to find the photographs.

Q. 76. When did the firm of Hawthorne & Sheble make these two large horns for the U. S. Navy?

A. By conferring with others who were in my employ at the time I have set the date as 1898. It may have been 1899.

Q. 77. Was any event of importance taking place with reference to which you could fix the date?

A. It was about the time of the Spanish War.

Q. 78. You said that the horns for the battleships consisted of several tapering sections having curved edges. What was the effect of having the edges of the tapering sections curved?

A. To make a horn or megaphone tapering throughout its length.

Q. 79. I show you a horn marked "Exhibit 'B,' John H. George, Ellsworth A. Hawthorne." Please

(Deposition of Ellsworth A. Hawthorne.)
state what you know of that horn.

A. This was a type of horn that was designed by Mr. Sheble and under the impression that it would make a superior reproducing horn. We made several of this type but did not find a ready market for [425] them and did not continue with their manufacture. The model referred to is one of the first that was made and was made previous to the year 1902.

Q. 80. For what purpose was this fluted horn used? A. For reproducing.

Q. 81. For what purpose or purposes were the horns heretofore described in your deposition as made by the firm of Hawthorne & Sheble or the Hawthorne & Sheble Mfg. Co. used?

A. For reproducing and recording.

Q. 82. Were any of the horns heretofore described by you in your deposition constructed specially for recording?

A. We tried every type of horn that we manufactured for recording purposes and we used a horn about 36 inches in length and with a bell about 36 inches in diameter for making records in our laboratory in Phil. in the year 1899, for recording orchestra records.

Q. 83. And what did you do in trying your horns for reproducing?

A. They were carefully tested in our special reproducing booths and also in our recording laboratory.

Q. 84. Did you use the same horn for recording and reproducing, or did you use a horn of one kind

(Deposition of Ellsworth A. Hawthorne.)
for recording only and a horn of another kind for
reproducing only?

A. The horns were used by us for both recording and reproducing. We recommended certain types of horns as being preferable to other types for recording.

Q. 85. What horns did you recommend for recording, particularly?

A. This depended upon the character of the recording work. For a single artist we would usually use a horn 26 to 30 inches in length without bell, tapered from end to end and with a longitudinal seam from end to end.

Q. 86. When you sold your horns such as the horns made of tapering metal strips with curved edges, brazed together and such as the horns made of aluminum tapering strips with curved edges joined together by lock seams, for what purposes were they intended?

A. For reproducing and they were also used for recording purposes. [426]

Q. 87. Please state all the different materials that were used by the firm of Hawthorne & Sheble and the Hawthorne & Sheble Mfg. Co. in the manufacture of horns for phonographs prior to the end of the year 1903?

A. Brass, silveroid, which was a zinc metal base, glass, wood, iron, steel, fiber, papier-maché, celluloid, leather, cloth, copper, tin and aluminum.

Q. 88. When you used metal how did you join the edges of the metal together?

(Deposition of Ellsworth A. Hawthorne.)

A. By brazing, butt seam or joint, lap seam, the tinsmith's lock seam, soldering.

Q. 89. Is the butt seam shown in the fluted horn which *is evidence*? A. Yes.

Q. 90. Did you ever use any of these methods when fiber, papier-maché or wood was used?

A. The fiber horns were riveted with a lap seam; the papier-maché with a molded seam; the wood seams were glued together.

Q. 91. Was it possible, when using paper or fiber or wood, to employ a method employed when metal was used for joining together the edges of the material? A. No.

Q. 92. Were these methods for joining together the edges of the different materials mentioned generally known in the art of making horns and other things made of like materials?

A. Yes, when Hawthorne & Sheble purchased an interest in the talking-machine business from Edward F. Leeds they purchased a large number of horns that were joined together with the lock seam or tinsmith's seam. Other manufacturers of horns used the same methods employed by Hawthorne & Sheble as they were well known in the art.

Q. 93. For how long a period were these several methods known in the art, to your knowledge?

A. From 1887 on, as long as I have been acquainted with the business. [427] The same identical process of manufacture was employed in other and similar manufactured products, such as household cooking utensils, funnels, etc., and has been as far as I can

(Deposition of Ellsworth A. Hawthorne.)
carry back my recollection of the business.

The examination of Mr. Hawthorne is adjourned to Monday, September 29, 1913, at 2:15 P. M., same place.

Adjourned to Friday, September 26, at 2:00 P. M., same place.

September 26, 1913.

Met pursuant to adjournment.

Present: Counsel as before.

[Deposition of John H. George, for Defendant.]

JOHN H. GEORGE, being duly sworn as a witness on behalf of defendant, testifies as follows:

Direct Examination by Mr. HICKS.

Q. 1. Please state your name, age, residence and occupation.

A. My name is John H. George, age 44, residence 2341 Fairfield Ave., Bridgeport, Conn., occupation, superintendent and purchasing agent of the Hawthorne Manufacturing Co., Bridgeport, Conn.

Q. 2. Were you ever employed by the firm of Hawthorne & Sheble; and if so, when and where?

A. Yes, I was employed by the Hawthorne & Sheble Mfg. Co. at Mascher and Oxford Sts., Philadelphia, in the year 1898.

Q. 3. I did not ask about the Hawthorne & Sheble Manufacturing Co., but about the copartnership or firm of Hawthorne & Sheble. Please state whether you were ever employed by that firm, and if so when and where.

A. As I understand it was the Hawthorne & Sheble Mfg. Co. when I entered their employ in 1898.

(Deposition of John H. George.)

Q. 4. Was the business conducted by Messrs. Hawthorne & Sheble incorporated, to your knowledge, during the period of your employment?

A. I believe it was but at that time I was not so familiar with the circumstances of the company; I do not remember whether they [428] were incorporated when I entered their employ, or not.

Q. 5. How do you fix the time when you were employed by the firm of Hawthorne & Sheble as being in the year 1898?

A. In 1898 the Hawthorne & Sheble Company purchased or bought out a concern that was conducted by Mr. C. Beecroft and in 1901 I went to Europe and I fix the date as I knew it was three years after I had entered the employ of the Hawthorne & Sheble Company.

Q. 6. Please state at what time in the year 1901 you went to Europe. A. In June, 1901.

Q. 7. At what time did you return from Europe, on the occasion of that trip? A. September, 1901.

Q. 8. Please state what your duties were during the period of your employment by Hawthorne & Sheble from 1898 to June, 1901, when you went to Europe.

A. Foreman of the cabinet-making department. We made cabinets for phonograph records and also patterns for the various other departments in the line. The patterns were to be used in the various other departments for forming and spinning phonograph horns.

Q. 9. Did the firm of Hawthorne & Sheble manufacture talking-machine supplies before you went to

(Deposition of John H. George.)

Europe in June, 1901; and, if so, what supplies?

A. Yes, they manufactured supplies such as cases for carrying records, and various sizes and styles of phonograph horns.

Q. 10. Can you state some of the materials used by Hawthorne & Sheble for the manufacture of phonograph horns before you went to Europe in June, 1901?

A. They used brass, aluminum, silveroid, zinc and fiber, also papier-maché. That is all I can remember just now.

Q. 11. How about tin?

By Mr. DUNCAN.—Objected to as leading.

A. Tin also was used.

Q. 12. Please describe the horns made by Hawthorne & Sheble from [429] aluminum, before you went to Europe in June, 1901.

A. As near as I can remember the aluminum horns were made from longitudinal sections and secured together with what is known as the lock seam, using from one to five sections according to the diameter of the horn.

Q. 13. Please describe the shape of each section of aluminum used when from two to five sections were employed in making the horn.

A. In my recollection the sections were made with the edges tapering from the small end of the horn to the bell or the largest diameter, having a gradual taper on the edges.

Q. 14. What do you mean by "the gradual taper on the edges?"

(Deposition of John H. George.)

By Mr. DUNCAN.—Objected to as leading.

A. The edges of the horn, if straight, would result in a straight horn and showing no flare on same, but as the horns in question were made with a gradual flare it was necessary to taper the edges to obtain same. The larger the curvature the more the flare of the horn.

Q. 15. After you returned from Europe in September, 1901, did Hawthorne & Sheble continue to make horns of aluminum in the manner described by you? A. Yes, I believe they did.

Q. 16. Please describe the horns made by Hawthorne & Sheble from brass before you went to Europe in June, 1901.

A. They made various styles, one horn, particularly, was known as the all-spun brass horn and was made from sections brazed together and hammered into shape. The sections were made in longitudinal strips and in some cases consisted of from four to five sections tapering the full length of the horn and in order to obtain the flaring bell the strips were curved slightly at a point from ten to fourteen inches from the largest diameter of what is known as the bell.

Q. 17. Do you recollect whether or not Hawthorne & Sheble made any [430] horns for the U. S. Navy?

A. Yes, I recollect that they made two or three large horns but did not at the time know whom they were for. The horns in question were made, to the best of my recollection, of four or five sections and joined together with a lock seam.

(Deposition of John H. George.)

Q. 18. Do you recollect the length, approximately, of these horns intended for the Navy?

A. I believe they were from ten to twelve feet, in length, but do not remember the exact diameter of the bell.

Q. 19. Please look at "Defendant's Exhibit for Identification, Hawthorne & Sheble's Fluted Horn," which is marked "Exhibit B, John H. George, Ellsworth A. Hawthorne," and state if you ever saw that horn before and when.

A. It was my impression that this horn was first brought to my notice in 1903 and was given to understand that the horn in question was manufactured by the Hawthorne & Sheble Company.

Q. 20. Where was it that this fluted horn was brought to your attention in 1903?

A. In the plant of Hawthorne & Sheble, Mascher and Oxford Sts., Philadelphia.

Q. 21. Of what material did you make the patterns to be used in the various other departments for forming and spinning phonograph horns?

A. The material used in every instance was wood, and when mandrels and other forms were required the same were cast from the patterns made by us.

Q. 22. Please state, so far as you know, what tools were used by Hawthorne & Sheble in the manufacture of horns for phonographs, before you went to Europe in June, 1901.

A. The tools used were steel mandrels tapering the full length and were used for forming the sections after being cut and before brazing together. We

(Deposition of John H. George.)

also used a machine known as a brake and [431] grooving machine; same had been manufactured by the Peckstow & Wilcox Company for many years. The brake was used for curving the edges of the strips and the groover for locking together of same and forming what is known as the tinsmith's lock seam. They also used spinning lathes which were used for spinning and wiring the bells after the horn was brazed together.

Q. 23. Was your work directly connected with the manufacture of horns by Hawthorne & Sheble?

A. No, not directly connected, or in other words I was not personally employed on this work.

Q. 24. In what part of the factory of Hawthorne & Sheble did you do your work, before you went to Europe in June, 1901? A. On the third floor.

Q. 25. Were the horns at that time manufactured in the same building?

A. Yes, on the second floor.

Q. 26. When did your employment with the Hawthorne & Sheble concern terminate?

A. In 1909, at which time I entered the employ of the Hawthorne Manufacturing Company.

Q. 27. Where did you perform your duties during your employment by the Hawthorne & Sheble concern from 1898 to 1909?

A. In 1906 I left Philadelphia for Bridgeport and was employed there as superintendent of their Bridgeport plant until 1909. From 1898 to 1906 I was employed at Philadelphia, Pa.

Direct examination closed.

(Deposition of John H. George.)

Cross-examination by Mr. DUNCAN.

XQ. 28. Did you have anything to do with making the megaphones or large horns you referred to in your answer to Q. 17?

A. No, sir; personally I was not employed in the direct manufacture of these horns excepting in making up patterns for the forms themselves. [432]

XQ. 29. What is your recollection as to the material of which those horns were made?

A. I don't recollect the material but believe same was made of brass.

XQ. 30. What is your recollection as to the size of the several sections which you say they used in making up these horns for the Navy?

A. I could not give any specific dimensions as I only saw the horns after they had been manufactured. As previously stated I believe the horn was from ten to twelve feet in length and consequently the strips would be about the same or slightly longer.

XQ. 31. What is your recollection as to the diameter of the mouth or bell?

A. I should say that the diameter would be from thirty to thirty-six inches but am not positive on this point.

XQ. 32. How many of these big horns for the Navy did you see?

A. I saw one but believe that two were made.

XQ. 33. Did you ever see more than one?

A. I cannot remember seeing more than one.

XQ. 34. Who told you that more than one was made?

(Deposition of John H. George.)

A. General knowledge throughout the factory at the time and conversations with the various employees.

XQ. 35. What year was it that you saw one of these big horns for the Navy?

A. I believe it was in 1898.

XQ. 36. Prior to your connection with Hawthorne & Sheble Manufacturing Company with whom had you been employed?

A. Mr. Clement Beecroft at Mascher and York Sts., Philadelphia, Pa.

XQ. 37. Did you go directly from his employ to the Hawthorne & Sheble Manufacturing Company?

A. Yes.

XQ. 38. Can you state at what time in the year 1898 you entered the employ of the Hawthorne & Sheble Company?

A. I am not positive but believe about September.
[433]

XQ. 39. What time of the year was it that you saw this big horn for the Navy?

A. It was shortly after I entered their employ.

XQ. 40. Is it a fact that that horn was made before you entered the employ of that company?

A. The horn might have been made previous to the date given, but it is my impression that the horn was photographed about September or thereabouts, at which time I saw it.

XQ. 41. Is it not a fact that you had nothing to do with the patterns used in the manufacture of this big horn for the Navy?

(Deposition of John H. George.)

A. That particular horn, yes, sir.

XQ. 42. Do you mean by your last answer that you had nothing to do with making the patterns for that particular horn? A. Yes, sir.

XQ. 43. Have you been to Europe more than once?

A. No, sir.

XQ. 44. How do you fix the date when you went to Europe?

A. From various letters in my possession from my relatives in Europe, and the fact that I arrived in Liverpool on or about July 4th.

XQ. 45. Are you familiar with the so-called B. & G. horn, made by the Hawthorne & Sheble Manufacturing Company? A. Yes.

XQ. 46. Were they making that horn when you entered the employ of that company? A. Yes.

XQ. 47. During how long a period did it continue making that horn?

A. The horn known as the B. & G. was made from 1898 up to 1909.

XQ. 48. Is this so-called B. & G. horn the horn that is represented in the upper right-hand corner of Defendant's Exhibit, p. 8 of the Talking-Machine World of January 15, 1905, which I now show you?

A. Yes, sir.

XQ. 49. Did you personally take part in the manufacture of the aluminum horns or the all-spun brass horns concerning which you have testified on your direct examination?

A. To the extent of making the patterns, for forms only. [434]

(Deposition of John H. George.)

XQ. 50. Prior to 1901, when you went to Europe, did you have anything to do with the assembling of any of the horns made by the Hawthorne & Sheble Company or of cutting out or otherwise preparing the blanks or pieces from which those horns were made? A. No, sir.

XQ. 51. Did you prior to that date have anything to do with the shipping or selling of the finished horn? A. No, sir.

XQ. 52. Up to the time you went to Bridgeport in 1906, what were your duties as an employee of the Hawthorne & Sheble Company?

A. From 1898 to 1904 I was foreman of the cabinet making and woodworking department. From 1904 to 1906 I was employed as superintendent of the Mascher and Oxford Sts. plant.

XQ. 53. Do I understand that up to 1904 your duties remained the same as prior to your trip to Europe in 1901? A. Yes, sir.

XQ. 54. What time in 1904 were you made superintendent of the plant referred to?

A. I cannot recollect the exact date. But believe it was in April or May.

XQ. 55. What were your duties as superintendent of the plant referred to?

A. General supervision of all the departments.

XQ. 56. Were the horns made by the Hawthorne & Sheble Company in 1904 and subsequently made in the plant of which you were superintendent?

A. Yes, sir.

XQ. 57. Then as I understand from some time in

(Deposition of John H. George.)

1904 up to the present time you were familiar with the assembling of horns by the Hawthorne & Sheble Company, this being under your supervision as superintendent? A. Yes, sir.

XQ. 58. Since you became superintendent in 1904 you have personal knowledge of the methods followed by your Company in cutting out and assembling parts in the manufacture of horns? A. Yes, sir.

XQ. 59. Did you have anything to do with the manufacture of the fluted horn, Defendant's Exhibit for Identification, Hawthorne & Sheble [435] fluted horn, that was shown you in connection with Q. 19?

A. No, sir.

XQ. 60. You say "that it was my impression that his horn was first brought to my notice in 1903 and was given to understand that the horn was manufactured by the Hawthorne & Sheble Company." Are you prepared to say definitely whether this horn was brought to your notice in the year 1903?

A. I am fairly positive that the horn in question was brought to my notice in the year 1903 by Mr. Heller, who was then superintendent. I understood that they contemplated manufacturing a horn in quantities but as the results obtained were not satisfactory they decided not to manufacture.

XQ. 61. Who told you that the results were unsatisfactory?

A. Mr. Heller gave me that impression when the horn was first brought to my attention.

XQ. 62. You personally, however, know nothing about the alleged manufacture of this fluted horn by

(Deposition of John H. George.)

the Hawthorne & Sheble Company, do you?

A. No, sir, I did not see the horn in actual process of manufacture.

XQ. 63. You have given an affidavit for the defendant in this case, some time ago, have you not?

A. Yes, sir.

XQ. 64. In preparation for that affidavit, with whom did you confer with regard to the subject matter?

A. There was no actual conference excepting that the matter was brought up during a conversation between myself and Mr. E. A. Hawthorne.

XQ. 65. You carefully examined the affidavit that Mr. Hawthorne made about the same time, did you not? A. I believe I did.

XQ. 66. Did you go over the subject matter with Mr. Hawthorne?

A. We talked over the various details, yes.

XQ. 67. Did you also go over the subject with the attorney for [436] the defendant company, Mr. Hicks? A. No, sir.

XQ. 68. Did you examine any exhibits in connection with your affidavit?

A. Yes, exhibit "B," particularly.

XQ. 69. Did you confer with anybody else beside Mr. Hawthorne in an endeavor to refresh your recollection prior to making your affidavit in this case?

A. No, sir.

XQ. 70. Your affidavit was a comparatively short one, being to the effect that the statements contained in Mr. Hawthorne's affidavit were correct, was it not?

(Deposition of John H. George.)

By Mr. HICKS.—Objected to. The statement in regard to the affidavit in the question is not correct, and the affidavit should be shown to the witness if he is to be interrogated in regard thereto.

A. Yes, to the best of my recollection the statements as given were correct.

XQ. 71. How many kinds of aluminum horns is it your belief that the Hawthorne & Sheble Company made while you were in its employ? I refer to different styles not different sizes of aluminum horns.

A. I only know of two kinds, or styles.

XQ. 72. How many styles is it your belief or impression that the Hawthorne & Sheble Company made in aluminum horns prior to 1901, when you went to Europe?

A. I believe two styles were made.

XQ. 73. Have you on your direct examination described these styles of aluminum horns that you think were made by the Hawthorne & Sheble Co. prior to June, 1901?

A. I believe I described one style.

XQ. 74. Is that the description given in your answers to Qs. 12-14, inclusive? A. Yes.

XQ. 75. Please describe the other style of aluminum horn you believe was made by the Hawthorne & Sheble Company prior to June, 1901.

A. As near as I can recollect the other style horn was made similar to the B. & G. or the amplifying horn.

XQ. 76. In what way were these aluminum like the B. & G. made prior to June, 1901?

(Deposition of John H. George.)

A. By spinning the bell of one piece of metal and the body formed [437] of sections tapering their entire length, and joined together at the bell by a seam.

XQ. 77. What is your recollection, if you have any, as to the number of sections used in the body of the aluminum horn of the B. & G. style?

A. In the larger size I believe we used three sections, but in most cases two were used.

XQ. 78. How long did your company continue to make the aluminum horn like the B. & G.?

A. I believe they discontinued this horn about 1902 or 1903.

XQ. 79. Why, in answering Q. 15, did you hesitate some little time before you gave the answer?

A. As I knew that we had substituted zinc to replace aluminum in a number of horns we manufactured and could not recollect just what date this was done.

XQ. 80. Is it not a fact that in 1901 or early in 1902, your company give up its manufacture of aluminum horns altogether?

A. I do not recollect making any aluminum horns after that date, 1903.

XQ. 81. Have you any personal recollection of making any aluminum horn after the end of the year, 1901?

A. Yes, of the style known as the B. & G., but of a very small size.

XQ. 82. Have you any personal recollections of the manufacture of any aluminum horns after you

(Deposition of John H. George.)

got back from Europe, of the construction described by you in answer to Qs. 12-14? A. Yes, sir.

XQ. 83. You speak of the B. & G. aluminum horn as an amplifying horn. How would you describe the horn of the construction of the horns described by you in answers to Qs. 12-14?

A. The aluminum horn of my description in answers to Qs. 12-14 is more on the style of what we would call a flower horn where as an amplifying horn such as the B. & G. is made with a flaring bell.

[438]

XQ. 84. Then do I understand that the horn described by you in answers to Qs. 12-14 is not an amplifying horn?

A. All of the horns in my estimation are amplifying horns, but this was a trade term, only, and described as such in our catalogue.

XQ. 85. Why, when defendant's counsel asked you at Q. 12, "Please describe the horns made by Hawthorne & Sheble before you went to Europe in 1901," did you describe only that form of horn in your answers to Qs. 12-14 and not describe the other style of aluminum horn that you now say was made during that time of the same construction as the B. & G. horn?

A. There was no particular reason for not describing both styles excepting that I considered that the amplifying horn was not in the shape of what we term a flower horn.

XQ. 86. Why did you think it unnecessary to refer to the B. & G. aluminum horn in answer to Q. 12

(Deposition of John H. George.)

and did think it desirable to describe the form of horn that you did describe in answer to Qs. 12-14?

A. Because I considered you were more interested in this particular style horn.

XQ. 87. How did you get the impression that I was more interested in this particular style?

A. I got the impression because I knew there was litigation on the style of horn known as the flower horn and consequently confined my remarks to this particular style.

XQ. 88. You will note however that the question was not confined to any particular style but asked you for a general description of "the horns made by Hawthorne & Sheble of aluminum before you went to Europe in 1901." Did you think it desirable in making your answer to refer only to such style of horn as you thought would be of interest as bearing on the issues of this case as you understand them?

A. Yes.

XQ. 89. Who told you that the flower style or shape of horn was involved in this case. [439]

A. I believe I was first informed by Mr. E. A. Hawthorne.

XQ. 90. Where did you get the impression that it was of interest in this case to describe an aluminum horn more or less of the flower shape as made by your company, prior to 1901?

A. In knowing that the case covered a horn on the style of a flower horn, I did not think it was necessary to describe the various other styles the Hawthorne & Sheble Company manufactured.

(Deposition of John H. George.)

XQ. 91. You know of your own knowldege how the all-spun brass horn to which you have referred in your direct examination was made in its different sizes?

A. To give the exact number of sections, used in each horn, no, I could not. But I do know that the strips were made in one piece and brazed together.

XQ. 92. Do you know of any all-spun brass horn being made by your company out of a single piece of metal, by spinning alone?

A. Yes, I believe this method was used with very small horns.

XQ. 93. Is it not also a fact that larger brass horns were made by your company prior to June, 1901, by spinning up circular sections for the mouth portions and smaller circular sections for the tapering portions of the horns and soldering or brazing these circular sections together?

A. I do not recollect a horn of this description, but they did manufacture a horn by spinning the bell.

XQ. 94. Are you prepared to say that prior to June, 1901, your company did not make up large brass horns by spinning the bells and also spinning the body portion in one or more circular sections, either brazing or soldering these circular sections and bell together?

By Mr. HICKS.—This line of cross-examination is objected to since if plaintiff's counsel is to inquire of every irrelevant thing done by Hawthorne

(Deposition of John H. George.)

& Sheble there will be no end to the testimony in this suit. [440]

A. I am not prepared to say that they did not manufacture the horn such as you describe, but I do not remember seeing a horn manufactured in this manner.

XQ. 95. Up to what date did your company make the all-spun brass horn as far as you know?

A. I do not believe that any number of this style horn was manufactured after 1900.

XQ. 96. Please describe, as nearly as you can, the details of the method of assembling and finishing the all-spun brass horn, prior to or during 1900.

A. The strips composing the horn were marked off from a pattern and cut by hand by means of a tinsmith's shears known as snips. After this they were brazed together and finished by spinning on a mandrel of the shape desired.

XQ. 97. Do you know whether these parts were submitted to any other treatment than cutting out, brazing together and finishing by spinning?

A. Yes, I believe the horns were hammered on a mandrel both previous to brazing and in some instances after brazing.

XQ. 98. Were they smoothed and polished after brazing?

A. Yes, the horns were smoothed out and polished after being brazed together.

XQ. 99. As a result did these horns have a smooth outer surface as well as a smooth inner surface?

A. The outer surface was much smoother than the

(Deposition of John H. George.)

inside in view of the fact that it was possible to get the tools on the outer surface and also the polishing wheels.

XQ. 100. Was the outer surface substantially as smooth as the outer surface of the horn spun out of a single piece of brass?

A. No, it was simply impossible to get this result, in view of the fact that the brazing solder did not flow evenly in certain portions of the horn. [441]

XQ. 101. Why was this style of horn substantially given up in 1900?

A. I have no means of obtaining any information regarding the discontinuance of any horn but presume that the expense was too great.

XQ. 102. Your endeavor was to get the outer surface just as smooth as possible by smoothing and polishing, was it not? A. Yes.

XQ. 103. What was the practical result of the difficulty caused by the solder in the joints of the sections?

A. As far as the reproduction was concerned, I do not believe it affected it in any way.

XQ. 104. I was not referring particularly to the reproduction but to any practical difficulty.

A. The only objection to it from my point of view would be poor workmanship.

XQ. 105. Please explain a little more what you mean by poor workmanship being a practical difficulty in this style of horn.

A. I mean by this that in brazing the operator would get too much metal on one part and too little

(Deposition of John H. George.)

in another, which would show a depression at the point where there was lack of metal, consequently would leave a mark by which we could notice that the same was brazed or secured together in some other manner.

XQ. 106. Is it not a fact that these so-called all-spun brass horns made in sections by your company prior to 1901, were unsatisfactory from the practical standpoint?

By Mr. HICKS.—This line of cross-examination objected to because the witness has not testified on the direct-examination in regard to such matters.

A. As previously stated I have no knowledge of the horn being unpractical excepting that the price was too high.

XQ. 107. Is it not a fact that your company has from time to time made small aluminum horns spun from a single piece of metal.

By Mr. HICKS.—Same objection. [442]

A. I do not recollect any such horn excepting, possibly small horns that were used in connection with the electric operating horn.

XQ. 108. Were not the small aluminum horns that you stated you believed were made by your company after Sept. 1901, made by spinning from a single piece?

A. I do not remember manufacturing a one-piece aluminum horn.

XQ. 109. The body portion of the B. & G. horn whether made in brass or aluminum or other material was made with straight though tapering sides,

(Deposition of John H. George.)

was it not? A. Yes, sir.

XQ. 110. Prior to your becoming superintendent in 1903, did you have any authority or regular duties in connection with the assembling of any of the horns made by your company?

A. I had no authority outside of my own department.

XQ. 111. Did you have anything to do with the fiber or papier maché horns made by your company prior to the time you became superintendent?

A. No, sir.

XQ. 112. Do you understand what the question at issue in this case is?

A. What do you mean by that?

XQ. 113. Do you know what the controversy is about?

A. Outside of the fact that it is a phonograph horn made up of several sections, no.

XQ. 114. Why did you think it had anything to do with the flower horn?

A. Because I knew it was or had been told that there was litigation on account of the patent issued on a certain style of flower horn.

XQ. 115. What style of flower horns?

A. A flower horn manufactured with the scalloped edges and lock joints.

XQ. 116. Where did you get this information or impression?

A. I do not recollect, but I believe it was due to my conversation with Mr. E. A. Hawthorne, on the subject.

(Deposition of John H. George.)

XQ. 117. To what extent has your company made such flower horns [443] since you became superintendent.

By Mr. HICKS.—Same objection.

A. I cannot state positively that we have manufactured a large number of this style horn.

XQ. 118. Is it not a fact that since the early part of 1905, the Hawthorne & Sheble Manufacturing Company, and during the past couple of years, the Hawthorne Manufacturing Company, with which you are now employed, had manufactured and sold, in large quantities, flower horns of the construction shown at the right-hand side, middle cut, of p. 8, of the Talking Machine World of January 15, 1905, a reproduction of which is in evidence in this case?

A. Yes, sir.

XQ. 119. Is it not a fact that these companies have sold large quantities of these horns to the Columbia Phonograph Company, and also to the American Graphophone Company? A. Yes, sir.

By COMPLAINANT'S COUNSEL.—The testimony of this witness in regard to the aluminum horns, the brass all-spun horns and to other horns alleged by him to have been made by the Hawthorne & Sheble Company, prior to 1903, is objected to on the ground that the same is incompetent, being based on hearsay and secondary evidence and because the proofs show that the witness is not in a position to give relevant testimony and a motion is therefore made and will be presented to the Court at

(Deposition of John H. George.)

the proper time to strike such portions of the deposition from the record.

XQ. 120. How can you fix 1903, as the date when you became superintendent of the Hawthorne & Sheble's plant in Philadelphia?

A. I believe you are wrong in the date. I said 1904. Because in 1906, I was transferred to Bridgeport to take charge of the Bridgeport plant and knowing that I had been superintendent of the Philadelphia plant for about two years previous enabled me to fix the day.

XQ. 121. I note that in XQ. 120, I, by mistake, mentioned 1903, as the date when you became superintendent of the Philadelphia plant, whereas your testimony in answer to XQ. 52-54, was that it was some time in 1904. Do I understand that you fix the year solely because it was [444] about three years before you went to Bridgeport?

A. Yes, sir.

XQ. 122. And how did you fix the date when you went to Bridgeport as 1906?

A. I fix the date from the date on which our lease was made for the Bridgeport plant, also the lease on the house I resided in.

XQ. 123. Have you those leases with you?

A. No, sir; I have not.

Cross-examination closed.

Redirect Examination by Mr. HICKS.

RDQ. 124. Does the Hawthorne Manufacturing Company with which you are now connected manufacture horns for phonographs?

(Deposition of John H. George.)

A. I understand from your question that this is an amplifying horn. And we do manufacture a few of this style to-day.

RDQ. 125. What style of horns for phonographs does the Hawthorne Manufacturing Company manufacture to-day?

A. Flower horns and amplifying horns made of tin, brass and steel.

RDQ. 126. Has the Hawthorne Manufacturing Company manufactured or sold horns for phonographs in large numbers since it was organized?

By Mr. DUNCAN.—Objected to as indefinite.

By Mr. HICKS.—See XQ. 128.

A. The Hawthorne Manufacturing Company does not manufacture phonograph horns in large quantities and have not done so since their incorporation. The principal business of the Hawthorne Manufacturing Company is the manufacture of motorcycle and bicycle headlights, known as acetylene lamps. We have also other lines such as the vacuum cleaners, telephone directories, tool kits, telephone gongs, and several other novelties in the way of electric lamps, also phonograph horns, which consists of a very small portion of our business.

RDQ. 126. Have you any interest in this suit?

A. No, sir.

Redirect examination closed.

Recross-examination by Mr. DUNCAN. [445]

RXQ. 127. The Mr. E. A. Hawthorne of whom you have spoken in your testimony is an officer of the Hawthorne Manufacturing Company, is he not?

(Deposition of John H. George.)

A. Yes, sir.

RXQ. 128. He was formerly an officer of the Hawthorne & Sheble Manufacturing Co., was he not?

A. Yes, sir.

RXQ. 129. When he left the Hawthorne & Sheble Co., and organized the Hawthorne & Sheble Mfg. Co., you went with him, did you not?

A. Yes, sir.

RXQ. 130. Do you recollect that within the last 2 or 3 years the phonograph and talking-machine companies have pushed the sale of cabinet machines that have no horns to such an extent as to render the call for the former horns comparatively small?

A. I have no means of knowing whether the phonograph companies have pushed the sale of the cabinet machines, but I do not know that the demand for horn machine has increased in the last three years.

Recross-examination closed.

Deposition closed.

Signature waived.

Adjourned to Saturday, Sept. 27, 1913, at 10:00
A. M., same place.

September 27, 1913.

Met pursuant to adjournment.

Present: Counsel as before.

[**Deposition of Frank H. Stewart, for Defendant**
(Cross-examination).]

FRANK H. STEWART resumes the stand.

Cross-examination by Mr. DUNCAN.

XQ. 83. When did you leave the employ of Haw-

(Deposition of Frank H. Stewart.)
thorne & Sheble or of the Hawthorne & Sheble Mfg. Co.?

A. Some time in the summer of 1909 or 1910.

XQ. 84. What were your duties while you were connected with the corporation known as the Hawthorne & Sheble Mfg. Co.?

A. I was salesman and worked in the factory while not traveling on the road selling goods. [446]

XQ. 85. Did you occupy the same position and perform the same duties that you have just described during the entire time that you were connected with the Hawthorne & Sheble Mfg. Co., if not, please state what were your different duties during your employment by that concern.

A. It is impossible for me to recollect or recall all of the different things that I have done during the past fifteen years.

XQ. 86. You were, however, a salesman of the Hawthorne & Sheble Mfg. Co., throughout the entire period of your employment by that concern?

A. As before stated I traveled on the road and worked in the factory.

XQ. 87. Where was the factory or where were the factories of the Hawthorne & Sheble Mfg. Co., located?

A. 1027 Ridge Ave., Philadelphia, Pa.; Oxford & Mascher Sts., Philadelphia, Pa.

XQ. 88. Were these the only factories of this company while you were in its employ?

A. No. The other factories were located at Howard & Jefferson Sts., Philadelphia, Pa.; the

(Deposition of Frank H. Stewart.)

foundry located at Front St., below Gerard Ave., and the old foundry of the Stanley B. Flagg Company.

XQ. 89. Have you now stated all of the factories of the Hawthorne & Sheble Company during the period of your employment? A. Yes.

XQ. 90. Did this company operate all of these factories during the entire period of your employment? A. No.

XQ. 91. State what factories they were operating when you entered the employ of the Hawthorne & Sheble Mfg. Co., and which factories they operated subsequently, stating about when they commenced the operation of these subsequent factories.

A. I cannot answer this question because I do not definitely or approximately recall these various dates.

XQ. 92. How many of these factories did the company operate at any one time.

A. I think they were all in operation in 1906.

[447]

XQ. 93. Which was the last of these factories to be put in operation by the Hawthorne & Sheble Mfg. Co.?

A. The foundry was the last addition.

XQ. 94. And which was the last one prior to the foundry to be put in operation?

A. I do not definitely recall.

XQ. 95. Which of these factories was being operated by the Hawthorne & Sheble Co., prior to 1900?

(Deposition of Frank H. Stewart.)

A. The plant at 1027 Ridge Ave., Philadelphia.

XQ. 96. When was the plant at Oxford & Mascher Sts., put into operation by the Hawthorne & Sheble Co.? A. 1900.

XQ. 97. And when was the plant at Howard & Jefferson Sts., put into operation?

A. I do not recall the exact date.

XQ. 98. Approximately how much later than 1900? A. I do not recall the date.

XQ. 99. Was it later than 1900 or prior?

A. The factory at Howard & Jefferson Sts., was occupied after 1900.

XQ. 100. Have you a definite recollection when the factory at Oxford & Mascher was put into operation by the Hawthorne & Sheble Co.? A. No.

XQ. 101. May it have been later than 1900, when this factory was put into operation?

A. I do not recall the exact date.

XQ. 102. In which of the factories of the Hawthorne & Sheble Co., did you perform any duties while connected with that company?

A. All of them.

XQ. 103. What goods were made in the Ridge Ave. factory of the Hawthorne & Sheble Company?

A. Our catalogue shows the different goods.

XQ. 104. Please state from your own recollection what goods were made in the Ridge Ave. factory of the Hawthorne & Sheble Mfg. Co.

A. The Hawthorne & Sheble Mfg. Co., were not organized at that time.

XQ. 105. At what time?

(Deposition of Frank H. Stewart.)

A. At 1027 Ridge Avenue. [448]

XQ. 106. What did you mean then in answer to XQ. 87, reading, "Where was the factory or where were the factories of the Hawthorne & Sheble Mfg. Co.," and you answered "1027 Ridge Ave., Philadelphia, Pa.; Oxford & Mascher St., Philadelphia, Pa.," and when in answer to XQ. 92, you stated with reference to the factories you had previously named "I think they were all in operation in 1906." You now mean that the Hawthorne & Sheble Mfg. Co. did not at any time operate a factory at 1027 Ridge Ave., or what do you mean?

A. As I recall the style of the firm was Hawthorne & Sheble at 1027 Ridge Ave.

XQ. 107. And do you mean that when the Hawthorne & Sheble Co., was formed it ceased to operate the factory at Ridge Ave.?

A. Some time about that date.

XQ. 108. What factory did the Hawthorne & Sheble Mfg. Co., first operate?

A. As I was not a member of the firm, merely an employee, the different styles and names of the firm and dates of change I do not know.

XQ. 109. Was the Ridge Ave. factory abandoned by the Hawthorne & Sheble Mfg. Co., or its predecessors, Hawthorne & Sheble in favor of some other factory? And if so about what time?

A. The quarters or space at 1027 Ridge Ave. was not sufficient to accommodate the growing business. Therefore the larger quarters at Oxford & Mascher Sts. were moved to.

(Deposition of Frank H. Stewart.)

XQ. 110. And was it some time after the factory at Oxford & Mascher Sts., that the factory at Howard & Jefferson Sts. was occupied by the company?

A. Yes.

XQ. 111. Then as I understand either the firm of Hawthorne & Sheble or the Hawthorne & Sheble Mfg. Co. first occupied the factory at Ridge Ave. and afterwards gave that up in favor of the factory at Oxford & Mascher Sts. and subsequently added the factory at Howard [449] & Jefferson and still the foundry on Front St., near Gerard.

A. Yes, that is as I recall the order in which the factories were operated.

XQ. 112. Who was the superintendent or who were the superintendents of the Ridge Ave. factory?

A. A. W. Heller.

XQ. 113. Was he the superintendent during the entire time that you had knowledge of this factory?

A. I do not recall.

XQ. 114. Do you know of any other person who was superintendent of that factory? A. No.

XQ. 115. Who was the superintendent or who were the superintendents of the Oxford & Mascher Sts. factory while you were in the employ of the Hawthorne & Sheble Co. or its predecessor?

A. Mr. Heller was succeeded by Mr. George.

XQ. 116. What duties did you perform in the Ridge Ave. factory? A. Errand boy.

XQ. 117. What duties did you perform in the Mascher & Oxford St. factory?

A. My duties were various. I worked in the office,

!(Deposition of Frank H. Stewart.)

part of the time, and in the factory at other times.

XQ. 118. What work did you do in the factory?

A. Not very much.

XQ. 119. What was the nature of the little work you did do there?

A. As I had a little inventive genius I would work out new things that might come up.

XQ. 120. Did you work regularly in any department for any given period of time? A. I did not.

XQ. 121. Did you regularly take part in the preparation or manufacture of any of the goods made and sold by your company?

A. I did, but not as a factory employee.

XQ. 122. Did you in the Oxford & Mascher Sts. factory regularly take part in the manufacture of any goods sold by your company?

A. I did not. I learned to operate the various machines. [450]

XQ. 123. You mean that you learned to operate all of the machines that were in that factory?

A. I learned to operate machines such as spinning lathes, drill presses, punch presses and the forming press, and grooving machine.

XQ. 124. I understand from your testimony that the popular horn that you regularly made and sold from 1898 or thereabouts to 1904 or 1905 was the B. & G. horn with the brass bell. Is that correct?

A. Yes.

XQ. 125. And that you also made other special horns for special purposes? A. Yes.

XQ. 126. Did you have anything to do with the

(Deposition of Frank H. Stewart.)

advertising as well as the selling of the goods of your company?

A. Advertising is a very broad proposition. As I asked Mr. Duncan what he meant in order to make my answer clear he said "public prints." This I did not have anything to do with.

XQ. 127. Did you have anything to do with getting up the catalogues or circulars of your company?

A. Yes.

XQ. 128. You are familiar with the advertisements in trade journals of your company?

A. Yes.

XQ. 129. The B. & G. horn referred to in a recent question and answer is correctly illustrated, is it not, in the upper right-hand corner of the copy of p. 8 of the Talking Machine World, of Jan. 15, 1905, which is in evidence as defendant's exhibit? A. Yes.

XQ. 130. Directly under the cut of the B. & G. horn is a cut of the so-called flower horn. Please state whether this cut correctly illustrates the style of horn that your company was offering for sale in January, 1905, and continued offering for sale while you were connected with it. A. Yes.

XQ. 131. From January, 1905, up to the time you left your company did it make and sell this style of flower horn in large quantities.

By Mr. HICKS.—Objected to as indefinite and immaterial. [451]

A. Yes, this style of horn and horns made on the same lines as this particular illustration shows were made both before and after the date you mentioned.

:(Deposition of Frank H. Stewart.)

XQ. 132. From 1905 up to the time you left the employ of your company was not this silk-finish flower horn, made and sold by your company, the popular horn and the one sold by it in largest quantities?

A. In answer to that question, the phonograph business grew from nothing at all up to a big business in a few years, and during the latter part of my employment with the concern we made as many horns or more in a day than we would make in a week during the first period of my employment.

XQ. 133. Will you please read over the last question and answer it in continuation of your last answer?

A. Yes, the flower horn superseded the B. & G. horn and the other styles of horns just the same way as styles change in bonnets, dresses and almost everything else and the style in phonograph horns or sound amplifying apparatus for talking machines is still changing. While I am not in the talking-machine business at the present time, the horn machine with almost any kind of a horn attached to it has gone out of style and has been superseded by what is called the hornless machine.

XQ. 134. While you were with the Hawthorne & Sheble Mfg. Co. or its predecessor did they make the brass horn that was spun up out of a single sheet of metal?

A. Yes, the smaller sizes were made in this way.

XQ. 135. And did they also make up an aluminum horn that was spun out of a single sheet of metal?

A. We did as an experiment, but aluminum has

(Deposition of Frank H. Stewart.)

very little tensile strength and would not draw, commercially. Consequently when we would receive orders for aluminum horns they would be cut in tapering [452] sections and seamed together with the lock seam or tinsmith's seam because we did not know the art of soldering the aluminum strips together and in order to get the shape it was necessary to cut these strips with curved edges.

XQ. 136. Over how long a period did you put out the spun brass horns made from a single sheet?

A. There were not many of the small spun horns made as the small horn did not give very much of a tone.

XQ. 137. Over how long a period did you continue making and putting out the brass horns spun from a single sheet?

A. I believe Mr. Hawthorne is making horns at the present time of that style, that is, a few of them, the demand is very limited.

XQ. 138. I wish to get your own knowledge of the art, and ask how long, to your own knowledge, did the Hawthorne & Sheble Co. continue making and putting out the brass horns spun from a single sheet?

A. As long as I was in their employ.

XQ. 139. Over how long a period did the company or its predecessor put out or attempt to put out the aluminum horns spun from a single piece?

A. Until the time I left their employ.

XQ. 140. What was meant by the term "all-spun" as applied to the brass horns sold by your company?

A. The all-spun or full-spun horn was simply a

(Deposition of Frank H. Stewart.)

name and did not mean anything in the actual manufacture of the horn. Do you wish me to describe the way that the full-spun horn was manufactured by us in our factory at 1027 Ridge Ave.?

XQ. 141. Please do so.

A. A roll of brass is uncoiled on the cutting table. The pattern is next laid on the brass. The workman takes a sharp-pointed instrument like the point of a compass and scratches a line around the pattern making an impression upon the brass. The pattern is removed and the sheet is cut according to this signature. In making some horns several of these sections would be cut. The sections [453] would have a shape with tapering, curved edges so as to conform to the shape of the horn when several of these sections would be placed together over the forming mandrel. These sections would be brazed together and hammered flat and polished.

XQ. 137. There was a period of about a year when you were out of the employ of the Hawthorne & Sheble Companies after which you returned to their employ, was there not? A. Yes, sir.

XQ. 138. What factory was it operating when you returned to its employ?

A. Oxford & Mascher Sts.

XQ. 139. Did the B. & G. horn supersede or practically supersede the brass all-spun horn that you have just described?

A. Yes. I might also say that the B. & G. horn superseded the tin Japanned horn.

XQ. 140. Does your recollection accord with the

(Deposition of Frank H. Stewart.)

testimony of Mr. George to the effect that the all-spun brass horn was substantially abandoned about 1900?

By Mr. HICKS.—Objected to as improper cross-examination. The testimony of Mr. George has nothing to do with the examination of this witness.

A. The full-spun horn was an expensive horn to make, and the sales were limited.

XQ. 141. Is it not a fact that the manufacture of this horn was either totally or substantially abandoned prior to the time you returned to the employ of the Hawthorne & Sheble Company, at its Mascher & Oxford Sts. factory?

A. The sale of the full-spun horn was very limited and the horns became tarnished and were a great deal of trouble to keep clean and as the phonograph was somewhat of an ornament in the house, the owners of the machines being desirous of having the machine present a good appearance changed over to the black and gold horn because there was not so much to clean on it, there being only the brass bell to polish. [454]

XQ. 142. Now will you please go on and answer the last question.

A. We did not make many of the full-spun horns at the time that you refer to.

XQ. 143. Did you make any full-spun horn of brass at the Mascher & Oxford factory? A. Yes.

XQ. 144. You were out of the employ of the Hawthorne & Sheble Companies during the year 1900 or thereabouts, were you not? A. Yes.

(Deposition of Frank H. Stewart.)

XQ. 145. Did you have anything to do with the manufacture of the big horns or megaphones for the Navy concerning which you have testified in your direct? A. No.

XQ. 146. Are you positive as to how many of these were made?

A. There were two of these horns made.

XQ. 147. How do you know that?

A. I saw them going through the factory.

XQ. 148. For whom did you sell or for whom did you make the aluminum horns that you say were made up of sections?

A. There were some made for Bettini. And we made up several samples which were shown around the trade.

XQ. 149. What became of those samples?

A. They were usually put in the scrap heap.

XQ. 150. When did you make these horns for Bettini, I mean the aluminum horns that you say were made of sections?

A. I do not recall the exact date.

XQ. 151. Approximately?

A. I do not even recall it approximately.

XQ. 152. Were these made at Ridge Ave.?

A. Some were made at Ridge Ave., and some were made at Oxford & Mascher.

XQ. 153. Over how long a period, as far as you can recollect, were these aluminum horns that you say were made in sections made?

A. The large size aluminum horns without the bell were made whenever [455] orders were received

(Deposition of Frank H. Stewart.)

for them. The aluminum horns was a specialty made to be used where space was restricted and the user did not care to have a horn stand to support the horn.

XQ. 154. What I asked was over how long a period did your company continue making aluminum horns that you say were made up of sections.

A. As long as I was in their employ. We always had a case or so of aluminum so as to fill orders promptly for these special aluminum horns.

XQ. 155. Do I understand that subsequent to January, 1905, you made up the style of horn illustrated as the flower horn on p. 8 of the Talking Machine World for Jan. 15, 1905, in aluminum as well as in other metal? A. Yes.

XQ. 156. In answer to Q. 21 of your testimony, speaking of aluminum horns for the Graphophone Grand Talking Machine you say "they were made of curved tapering sections as have been heretofore described." Will you please glance at your testimony previous to that answer and point out that place where the tapering sections referred to by you have been previously described?

A. In answer to Q. 14.

XQ. 157. You are familiar with the glass horns that were at one time offered for sale by the Hawthorne & Sheble Mfg. Co.? A. Yes.

XQ. 158. How long did that company continue to offer glass horns for sale? A. I do not know.

XQ. 159. Did they discontinue the offering of glass horns prior to your leaving the company?

(Deposition of Frank H. Stewart.)

A. Yes, I do not recall seeing any of the glass horns around the factory during the past few years.

XQ. 160. Isn't it a fact that after the advertisement of January 15, 1905, on p. 8 of the Talking Machine World your company ceased to advertise and ceased to manufacture glass horns? [456]

A. The glass horns were not manufactured by Hawthorne & Sheble, but were made for them by an outside concern.

XQ. 161. Is it not a fact that after January, 1905, the Hawthorne & Sheble Mfg. Co. ceased to purchase any more glass horns or to offer for sale any further glass horns than those they then had in stock?

A. That may be so.

XQ. 162. These glass horns as well as the B. & G. horns were superseded by the type of horn known as the flower horn from 1905 on, were they not?

A. Practically so, that is, as the style changed the goods we manufactured changed.

XQ. 163. The glass horn and the B. & G. brass horn were of practically the same general contour, were they not? A. They were.

XQ. 163. The one being made in glass and the other in brass? A. That is right.

XQ. 165. Is it not a fact that at one time your company made up brass horns of large size by spinning in one piece the large mouth section and spinning in one piece the smaller body section and then brazing or soldering the two circular sections together?

A. Yes, some horns were made in this manner, and some horns were formed over the grooving machine.

(Deposition of Frank H. Stewart.)

By Mr. HICKS.—Question and answer objected to as indefinite as the expression “large horn” has no meaning.

XQ. 166. Is it not a fact that some of the large brass horns made by your company were made up of three circular sections, each spun out of a single piece of brass, which circular sections were then soldered together to form the complete horn?

A. Your question on this is very indefinite, and I do not get the drift of your idea.

XQ. 167. I refer to a construction consisting of a circular portion [457] constituting the mouth of the horn spun out of one piece of metal and a joining section circular in form, but smaller than the mouth also spun out of one piece of metal and a still smaller section also circular or conical in contour spun out a single piece of metal, which three sections were joined together by soldering or brazing would constitute a complete tapering horn and I ask whether it was not a fact that some of the large brass horns of your company were made in this way.

By Mr. HICKS.—Objected to as immaterial.

A. We did not make them that way. I answer that by saying that you could not make the horn that way according to my understanding of Mr. Duncan's question.

XQ. 168. Did not your company make a large tapering horn consisting of three sections, each smaller than the other, which sections were of conical form and that were fastened together when the horn was assembled so as to make a complete horn. A. Yes.

(Deposition of Frank H. Stewart.)

XQ. 169. Of what material was this horn made?

A. Of metal.

XQ. 170. What metal?

A. It just depended on what was ordered, tin, brass, zinc.

XQ. 171. Did you make any of these horns in aluminum?

A. Such a horn may have been made in aluminum.

XQ. 172. How were the different conical sections joined in making such a horn?

A. They were joined by the tinsmith's or lock seam.

XQ. 173. Was this style of horn known by any trade name? A. Yes, the Telescopic Horn.

XQ. 174. During what period did your company make this style of horn?

A. Horns of this kind were shown at the electrical exhibition in 1898. After that the electrical exhibition was held in Philadelphia during June and July of that year. They made it up until the time I left their employ.

XQ. 175. Have you a clear recollection of the form of the sections used in making up the horn that you say in answer to Q. 14, were made [458] in segments? A. Yes.

XQ. 176. Can you clearly recall the shape of those sections? A. Yes.

XQ. 177. Can you clearly differentiate between the horns that were made by your company prior to 1904 and those that were made subsequent thereto?

A. With some styles of horn there was no differ-

(Deposition of Frank H. Stewart.)

ence. That date does not make any difference in the manufacture of the horns. They were made the same before that date as afterwards. When a horn of a certain design or style or shape was to be made the pattern by which the segments were cut out was used. Some of the patterns would have straight edges when a straight conical shaped horn would be the desired result and patterns with curved edges would be used when a horn was desired that had an inwardly-curved conical shape. You will understand that when two straight pieces cut in somewhat of a triangular form are put together they simply make a triangle of somewhat larger shape; but, if the inwardly-abutting or joining edges of the two segments are cut out on a curve the curve on the two sections when they are joined together makes a curve which is approximately one-half of the curvature in either of the sections.

XQ. 178. Do you recollect any difficulty in connecting the longitudinal sections from which you claim the all-spun brass horn was made by your company?

A. No.

RECESS.

XQ. 179. Please describe the contour of the mouth of the tapering horn made of aluminum in sections as stated by you in answer to Q. 14.

A. The mouth that you refer to is at the large end of the horn. The large end or the mouth of the horn is flat.

XQ. 180. Were the edges of the large end scalloped or did they form a continuous circle?

(Deposition of Frank H. Stewart.)

A. They were not scalloped.

XQ. 181. Were any of the sectional horns made by your company prior [459] to January, 1905, made with scalloped edges at the mouth end of the horn?

A. Yes, the horns made of scalloped edges but not of metal.

XQ. 182. Of what substance were the horns of scalloped edges made to which you just referred?

A. They were made of glass.

XQ. 183. And these are the horns illustrated on the circular in evidence, entitled, "glass horns"?

A. Yes, there were horns made with scalloped edges but of a different design from the particular horn that I had in mind. In our catalogue during the period of our manufacture we listed probably 150 different kinds of horns; the exact number I do not know.

XQ. 184. Will you please draw on the sheet of paper that I now hand you the outline of the section that you refer to in your answer to Q. 14 as one of the sections used in making the aluminum horn there referred to.

A. I have drawn the outline of such section and for purposes of identification have marked the same with my name and the date, September 27, 1913, and the words outline of section referred to in answer to Q. 14.

XQ. 185. You have made two drawings of this section, one with a straight top to the section and one

(Deposition of Frank H. Stewart.)

with a slightly curved top to the section. Which of these is correct?

A. The last figure I drew is correct, that is the one with the curved top and bottom. In order to distinguish this I mark the first one 1 and the second one with the curved top and bottom 2.

XQ. 186. In what respect is the drawing No. 1 incorrect, if at all?

A. It is merely incorrect in outline in that the base of the triangle is shown as a straight line instead of as a curved line. In the practice of manufacture it would be curved, according to whatever design it was desired to make. When the bottom curve is curved inwardly the points where the two edges are joined together [460] makes a sharp projection at the edges whereas where the line is curved the projection point is in the middle of the leaf of the horn.

By COMPLAINANT'S COUNSEL.—Complainant's counsel asks that the two drawings made by the witness be marked for identification as "Stewart drawings, outline of section referred to in Q. 14, No. 1 and No. 2 respectively."

Cross-examination closed.

Redirect Examination by Mr. HICKS.

RDQ. 187. Please state what, if anything, Hawthorne & Sheble did in the manufacture of the Kaiser horn, such as shown in "Defendant's Exhibit, Photograph of Kaiser Horn of 1898."

By Mr. DUNCAN.—Objected to as leading.

A. Hawthorne & Sheble made horns of this design in metal with the exception that Hawthorne &

(Deposition of Frank H. Stewart.)

Sheble's horn did not curve at the end the way that the Kaiser horn curved. I call your attention to the photograph wherein the end of the horn curves upward. The Hawthorne & Sheble horn was straight in its vertical apes.

RDQ. 188. In answer to the last question you spoke of the end of the horn curving upward. Which end of the horn did you refer to?

A. I refer to the small end where the horn connection was put on.

RDQ. 189. Please describe how Hawthorne & Sheble made these Kaiser horns in metal.

A. As I recall these particular horns they were samples; they were made of aluminum and brass. The aluminum horns were seamed along the edge of the tapering sections as this was the process we used in manufacturing horns of aluminum because at that time we did not know any other way of joining the sections together except by the use of the lock seam or tinsmith's seam and as the aluminum that we used was of a narrow width it was necessary to join several sections together. With some of the horns the seam ran throughout the entire length of the horn from the ferrule to the end but we found that [461] after the horn was placed on the machine the weight of the horn caused the aluminum to buckle, that is, it would not sustain its own weight; so to obviate this difficulty of the horn buckling we used a tin end which as I recall was about ten inches long and the body of the horn was joined to the short end or the tin portion. The tin portion on these horns, which

(Deposition of Frank H. Stewart.)

were about 24 or so inches long, was, I believe, made on ends about 10 inches long similar to the short horn which was furnished by the Columbia Phonograph Company with their Eagle Graphophone.

By Mr. DUNCAN.—Answer objected to as obviously based on hearsay and argumentative conclusions.

The WITNESS.—(Continuing.) In order to make my above answer clear the Graphophone horn or horn which was supplied by the Columbia Phonograph Co. with the Eagle Graphophone was about 10 inches long. The aluminum part was fastened to this horn making the horn throughout its entire length, approximately 24 inches long.

RDQ. 190. What was the shape of each strip of aluminum employed by Hawthorne & Sheble in making these Kaiser metal horns?

A. They approximated the style and shape of the segments used for making the flower horn years afterwards, that is to say, the flower horn which we made in 1909 was made of strips which anyone else but an expert, would say were the same strips that we used in 1898 or the date that we made the Kaiser horn because our metal horns were Chinese copies of the Kaiser horn in shape and dimensions.

RDQ. 191. Please describe the sides of the strips of metal employed by Hawthorne & Sheble in making these Kaiser metal horns?

A. The sections of the metal Kaiser horn was curved, tapering sections.

RDQ. 192. When was it that Hawthorne & Sheble

(Deposition of Frank H. Stewart.)

made these Kaiser horns of curved strips of aluminum?

A. I do not recall the date but it was shortly after Kaiser made his horn and showed it here in New York among the trade and Hawthorne [462] had some metal horns made like the Kaiser horns, only with the curved tapering sides put together with the tinsmith's seam.

RDQ. 193. With reference to the time when you received the X-ray burn upon your hand, when was it that Hawthorne & Sheble made these Kaiser horns?

A. I believe it was about that time.

RDQ. 194. What has become of the stock of Hawthorne & Sheble and the Hawthorne & Sheble Mfg. Co.?

A. I do not know; I have not the faintest idea. Horns that were made up for samples would be scrapped or thrown into the scrap heap if they did not command a market. And as for knowing what became of these horns it would be as futile to look up this or try to look it up as trying to get a derby hat of the vintage of 1898.

RDQ. 195. Have you personally made any effort to find any of the horns made by Hawthorne & Sheble as described in your testimony?

A. I have. I met a friend of mine, Frank Hare, to whom one of these aluminum horns was sold. The phonograph on which the horn was used was purchased by Mr. Hare for a Christmas present for his wife Christmas, 1899. Mrs. Hare sent this aluminum horn back and had it exchanged for a brass horn be-

(Deposition of Frank H. Stewart.).

cause brass horns were the style at that time and Mrs. Miller and several others of Hare's friends had phonographs with a brass horn attached. The horn of aluminum, which Mr. Hare got with his outfit, was one of our sample horns which I have endeavored to describe and make clear in my testimony as one sample horn made with curved tapering sections joined together on their edges, the same edges being curved inwardly and made of aluminum.

RDQ. 196. Please state whether or not Hawthorne & Sheble sold any of the aluminum horns for the Graphophone Grand Talking Machine to any of the talking-machine manufacturers.

A. They did. Some of these horns were sold to the American Graphophone Company. [463]

RDQ. 197. Please state, if you know, what are the sound-producing qualities of the horn which has been marked "Defendant's Exhibit, for Identification, Hawthorne & Sheble Fluted Horn."

A. That horn is no different in its sound-producing qualities from any other horn of the same dimensions; in fact, in the great many tests that I have made it has been found to be impossible for anyone to distinguish, with any degree of certainty, the difference in the sound reproduction of any horns of approximately the same size as to length and diameter except in that the longer the tube is or the longer the horn, the deeper the tone. On one occasion Mr. Vandergrift of the firm of Sheip and Vandergrift came to our factory with a wood horn which they have since put on the market as the Music Master

(Deposition of Frank H. Stewart.)

horn. We tried Mr. Vandergrift's horn in comparison with several other horns with the same record. Mr. Vandergrift and others who were present making the test having their backs turned to the machine. All those present having made notes as to which reproduction they considered as being the best and the result was that they were all different and Mr. Vandergrift picked out a metal horn as being the best all-round reproducing apparatus.

RDQ. 198. Please state whether there is any difference in the sound-producing qualities of a metal horn, due to the horn having one longitudinal rib or seam or having two or more longitudinal ribs or seams.

A. A horn with one longitudinal seam made the way that the Hawthorne & Sheble full-spun 56 inch brass horn was made, while seam showed was made of several sections joined together but brazed in such a manner as to make the seams invisible and this horn did produce a better musical reproduction than the other horns. There is no difference between a horn having one longitudinal seam or rib or having two or more longitudinal ribs or seams.

RDQ. 199. Referring to the B. & G. horn and to the flower horn shown on p. 8 of the Talking Machine World for January 15, 1905, one of [464] defendant's exhibits, please compare the sound-producing qualities of the two horns.

A. The reproduction from the B. & G. horn which is one of the H. & S. 42-24 E. horns, would be deeper in tone than the reproduction from the other horn. The other is shown in the advertisement under the B. & G. horn.

(Deposition of Frank H. Stewart.)

RDQ. 200. Is there any disadvantage that may result from having a considerable number of seams, say, twelve, in a horn made of metal strips, with respect to the reproduction of sound?

A. Yes. The more strips there are in making a horn commercially the greater hazard there is in having a loose joint. In practice and in my experiments with horns we found that eight or nine sections made the best working plan.

RDQ. 201. Please read "Defendant's Exhibit, Letter of Matthew P. Doyle to Hawthorne & Sheble Mfg. Co., dated September 22, 1904," etc., and state, if you know, whether the Hawthorne & Sheble Mfg. Co. had, prior to the date of that letter, manufactured flower horns such as are shown in "Defendant's Exhibit, p. 8, of the Talking Machine World for January 15, 1905."

A. I have read the letter. Yes, they did.

RDQ. 202. Did you ever hear of any suit on the Nielsen Patent, No. 771,441, which I now show you, having been brought against the Hawthorne & Sheble Mfg. Co.? A. I did not.

RDQ. 203. Now that you have the Nielsen Patent in suit before you, please refer to Figs. 1 and 3 thereof and state whether horns for phonographs could be manufactured in a commercial way by joining together the strips of metal by the seam shown in those figures.

A. From a practical standpoint of manufacture it would not be commercially practicable to join the edges of the segments of the horn together as shown in

(Deposition of Frank H. Stewart.)

Fig. 3. The reason for this is that the sections could not be put close enough together to prevent a counter-vibration [465] between the various segments or sections of the horn. In making a horn of this type it is very necessary and important to have all of the seams tight.

RDQ. 204. Have you ever known of a horn being on the market, made as shown in Fig. 1-3 of the said Nielsen Patent, employing the seam there shown?

A. No, I never saw such construction in practice.

RDQ. 205. Please refer to p. 276 of "Defendant's Exhibit, Phonographische Zeitchrift, Published in Berlin, May 20, 1903," and state whether, at that time, May 20, 1903, there was any method known to or employed by the Hawthorne & Sheble Mfg. Co. by which the horn marked "E. A. H.—9/25/13," could be made from aluminum.

A. Certainly. That would be a very simple matter for us to do, at that date or previous to that date.

RDQ. 206. Now, at that date or previous to that date, would Hawthorne & Sheble have made that horn of aluminum, according to a method known to or employed by them at that date or previous to that date?

A. The tensile strength of aluminum is very low and cannot be drawn or spun very deep. Consequently, in order to make a horn of aluminum it would be necessary in order to get the shape that this horn has to use curved, tapering sections. It is quite possible that this particular horn, which is apparently a 24-inch horn, that is, 24 inches long, was made in tapering sections. I judge this from the fact that

(Deposition of Frank H. Stewart.)

the larger horn is apparently a 56-inch brass horn and the photograph especially referred to by you is about a little less than half the length of the larger horn and I should say would be termed a 24-inch horn. The sections of this horn, which was probably made of eight or nine sections, each section being curved inwardly with the edges turned over, were put together with the tinsmith or lock seam. [466]

RDQ. 207. On your cross-examination you were questioned in regard to a telescopic horn made by Hawthorne & Sheble, in XQ. 172. There seems to be some indefiniteness in the questions and answers as to where or how the lock seam mentioned by you was employed in these telescopic horns. Please make this clear.

A. Each section of the horn was seamed longitudinally throughout its length, there being several sections in each conical-shaped part of the horn.

RDQ. 208. Please compare the all-spun brass horn made by Hawthorne & Sheble with the so-called flower horn such as that shown on p. 8 of the Talking Machine World for January 15, 1905, with respect to their sound-producing qualities.

A. The full-spun horn had a deeper tone as compared to the flower horn, this being partly due to the difference in the length of the horn.

RDQ. 209. In your opinion, which, if either, is the better horn for the reproduction of sound from a phonograph record?

A. The brass horn would be more pleasant than the other; but, with phonograph horns, it is a great deal

(Deposition of Frank H. Stewart.)

like the story about the lady who, during the campaign, inquired of the man on the street, who was selling them, who would be the next president, as she wanted to buy his photograph. The man replied, "I don't know, Lady; you pays your money and takes your choice."

RDQ. 210. Please look at Fig. 2 of U. S. Patent No. 491,421 of Feb. 7, 1893, and state whether, if the funnel or horn there shown is made of three or more strips of metal joined together by the tinsmith's or lock seam, the funnel or horn would be adapted for use as a horn for phonographs and similar machines.

A. It would, and the reproduction of the sound from the phonograph from a horn made accordingly would be indistinguishable from any other phonograph horn reproduction. [467]

Redirect examination closed.

Recross-examination by Mr. DUNCAN.

RXQ. 211. Were these aluminum horns made for all the various talking machines then in the market?

A. They were designed to fit the Edison phonograph and the Columbia Graphophone.

RXQ. 212. Were the connecting ends of the horn made to fit the Edison phonograph and the Columbia Graphophone the same?

A. Yes; they were all standard size so as to fit the rubber horn connection.

RXQ. 213. Were they made in any other way?

A. Some few were.

RXQ. 214. How were they made?

A. They were made to fit the Bettini reproducer

(Deposition of Frank H. Stewart.)
with a special adapter.

RXQ. 215. In what respect were they different?

A. Merely in diameter at the small end, the Bettini reproducer being larger in diameter, as I recall, approximately an inch and a half.

RXQ. 216. State the name of the customers to whom you sold the Kaiser horn in metal just referred to.

A. I do not recall who the purchasers were; but samples were shown to various jobbers in New York City as Barkelow & Kent, 26 West Broadway, as I recall the number. Samples were shown to Bettini when Di Castero was with Bettini at the time that Bettini had offices in the Judge Building, at 110 Fifth Ave., New York City. I think Mr. Hawthorne made a special trip to New England and with some of these sample horns where they were shown to some of our old customers, Murray, Blanchard, Young & Co., Providence, R. I., J. A. Forster, Providence, R. I., Eastern Talking Machine Company, Boston, Mass.

RXQ. 214. How many of these horns were made?

A. We made quite a number, as I recall. When a new horn would be made in our factory and the sample was passed upon by Mr. [468] Hawthorne & Sheble we would run through 25 or 30 horns. These samples would be taken around by Mr. Hawthorne and myself or shipped by express to distant points like Chicago, New Orleans, San Francisco, etc., with a letter. Of course, you understand at this time in the talking-machine business we did not have a corps of traveling men such as are engaged at the

(Deposition of Frank H. Stewart.)
present time in the industry.

RXQ. 215. Do you know how many of these particular horns were made?

A. No, I do not recall exactly how many horns were made, but there were enough to send samples around to all of our good customers.

RXQ. 216. How many good customers did you have? A. I have no answer to that question.

RXQ. 216. How many letters did you send out to various people?

A. I do not know, but inasmuch as we prided ourselves on being good business people I feel certain that a letter was sent to each customer or jobber to whom a horn was shipped.

RXQ. 217. Is it not a fact that only a few of these horns were made in the form of samples?

A. I do not know whether any orders came in as a result of this campaign or not. I do know, however, that I did not get any wholesale orders from my work or solicitation.

RXQ. 218. Over how long a period of time were these samples of Kaiser metal horns shown or distributed?

A. The manufacture of these horns was incidental to our business and we shipped out in the regular course of business in the same manner as a manufacturer of any other line of goods would send or ship out samples to customers. If the style and price were right the orders came in.

RXQ. 219. Do I understand from your testimony that there were no sales made?

(Deposition of Frank H. Stewart.)

A. There were no sales made wholesale by me.

RXQ. 220. Or by anybody else?

A. Mr. Hawthorne sold some of the horns, but just how many I do not know or to whom I do not know.

[469]

RXQ. 221. Were any horns sold retail by you?

A. Yes. Horns of this character were sold retail by me, one going to Mr. Frank Hare and afterward Mr. Hare returned this horn and exchanged it for one of another style.

Cross-examination closed.

Deposition closed.

Signature waived.

Adjourned to Monday, Sept. 29, 1913, 10:30 A. M., same place.

September 30, 1913.

Met pursuant to adjournment.

Present: Counsel as before.

By Mr. HICKS.—Defendant offers in evidence the following letters patent of the United States, Great Britain and France, together with translations of the letters patent of France, said letters patent being printed Patent Office copies:

LETTERS PATENT OF THE UNITED STATES.
No. 8,824, patented Dec. 7, 1875, to F. S. Shirley
(Design).

No. 10,235, patented Sept. 11, 1877, to E. Cairns
(Design).

No. 34,907, patented Aug. 6, 1901, to C. McVeety &
J. F. Ford (Design).

No. 72,422, patented Dec. 17, 1867, to G. S. Saxton.

No. 165,912, patented July 27, 1875, to W. H. Barnard.

No. 181,159, patented Aug. 15, 1876, to C. W. Fallows.

No. 362,107, patented May 3, 1887, to C. R. Penfield.

No. 406,332, patented July 2, 1889, to J. C. Bayles.

No. 409,196, patented Aug. 20, 1889, to C. L. Hart.

No. 427,658, patented May 13, 1890, to J. C. Bayles.

No. 453,798, patented June 9, 1891, to A. Gersdorff.

No. 491,421, patented Feb. 7, 1893, to A. Gersdorff.

No. 534,543, patented Feb. 19, 1895, to E. Berliner.

No. 612,639, patented Oct. 18, 1898, to J. Clayton.

No. 632,015, patented Aug. 29, 1899, to G. L. Hogan.

[470]

No. 647,147, patented April 10, 1900, to F. Myers.

No. 648,994, patented May 8, 1900, to M. D. Porter.

No. 651,368, patented June 12, 1900, to J. Lanz.

No. 692,363, patented Feb. 4, 1902, to W. C. Runge.

No. 699,928, patented May 13, 1902, to C. McVeety and J. F. Ford.

No. 705,126, patented July 22, 1902, to G. Osten and W. P. Spalding.

No. 738,342, patented Sept. 8, 1903, to A. S. Marten.

No. 739,954, patented Sept. 29, 1903, to G. H. Villy.

No. 748,969, patented Jan. 5, 1904, to C. Melville.

No. 763,808, patented June 28, 1904, to H. Sturges.

No. 769,410, patented Sept. 6, 1904, to E. A. Schoettel.

No. 770,024, patented Sept. 13, 1904, to B. Ruggiero and G. Bongiorno.

LETTERS PATENT OF GREAT BRITAIN.

No. 22,612, of 1899, to G. L. Hogan.
No. 7,594, of 1900, to W. P. Thompson
No. 9,727, of 1901, to W. C. Runge.
No. 22,273, of 1901, to W. C. Runge.
No. 17,786, of 1902, to H. Fairbrother.
No. 20,146, of 1902, to G. H. Villy.
No. 20,567, of 1902, to J. M. Tourtel
No. 5,186, of 1903, to F. C. Cockman.
No. 14,730, of 1903, to J. M. Tourtel.

LETTERS PATENT OF FRANCE.

No. 301,583, of June 23, 1900, to Guerrero (Jose).
Translation of No. 301,583, of June 23, 1900, to Guer-
rero (Jose).
No. 318,742, of Feb. 17, 1902, to E. Turpin.
Translation, of No. 318,742, of Feb. 17, 1902, to E.
Turpin.
No. 321,507, of May 28, 1902, to W. C. Runge.
Translation of No. 321,507, of May 28, 1902, to W. C.
Runge.
No. 331,566, of April 28, 1903, to W. T. P. Hollings-
worth.
Translation of No. 331,566, of April 28, 1903, to W.
T. P. Hollingsworth. [471]

LETTERS PATENT OF THE UNITED
STATES.

No. 31,772, registered July 5, 1898, to John Kaiser
(Trademark).
No. 811,877, patented Feb. 6, 1906, to Camillus A.
Senne.

No. 725,815, patented April 21, 1903, to W. Barnes.

No. 982 (Reissue) patented June 12, 1860, to Wyberd.

No. 16,044, patented April 14, 1885, to Bailey (Design).

No. 17,627, patented August 16, 1887, to Carr (Design).

No. 19,977, patented July 1, 1890, to Miller.

No. 26,640, patented February 16, 1897, to Valdwell (Design).

No. 30,653, patented May 2, 1899, to Littlehale (Design).

No. 186,718, patented January 30, 1877, to Einig.

No. 609,983, patented August 30, 1898, to Wolhaupter.

No. 679,659, patented July 30, 1901, to Wolhaupter.

No. 693,460, patented February 18, 1902, to Takaba.

No. 701,377, patented June 3, 1902, to Norcross.

No. 758,716, patented May 3, 1904, to Storrs.

No. 798,876, patented Sept. 5, 1905, to Conger, et al.

The foregoing patents are marked "Defendant's Exhibit, United States, British and French Patents, Together with Translations of French Patents, Frank Z. Demarest, Examiner."

IT IS STIPULATED by and between counsel for plaintiff and defendant that the foregoing copies of U. S. letters patent shall have the same force and effect as if the original letters patent or certified copies thereof had been offered in evidence; and that the British and French letters patent offered in evidence shall have the same force and effect as if the

original letters patent or certified copies thereof had been offered in evidence, subject, however, to corrections by comparison with certified copies and that complainant's counsel reserves the right to object to the translations of French patents on the ground of possible incorrectness. [472]

[**Deposition of Ellsworth A. Hawthorne, for Defendant.]**

ELLSWORTH A. HAWTHORNE resumes the stand.

Direct Examination Continued by Mr. HICKS.

Q. 94. Have you been able to find any catalogue issued by the firm of Hawthorne & Sheble?

A. Yes. I now produce the catalogue.

Q. 95. Please state when this catalogue was issued and the other facts in regard to the use of that catalogue.

A. 1898. It was used by Hawthorne & Sheble and later used by Hawthorne & Sheble Mfg. Co. It was, I believe, the first distinctively horn catalogue used by Hawthorne & Sheble.

Q. 96. At the time this catalogue was issued where was the factory of the firm of Hawthorne & Sheble located?

A. 1025 & 1027 Ridge Ave., Philadelphia.

Q. 97. And where were the offices and salesrooms of the firm of Hawthorne & Sheble located?

A. When the factory was started, 604 and 606 Chestnut St., Philadelphia and also at 44 Broad St., New York, 43 Broad St., New York and later at 297 Broad St., New York.

(Deposition of Ellsworth A. Hawthorne.)

Q. 98. Stamped upon the cover of the catalogue appears the following:

“Change of address. Please direct all communications to Hawthorne & Sheble Mfg. Co., Cor. Mascher & Oxford Sts., Philadelphia.”

What does this stamped statement mean, with regard to the use of that catalogue?

A. It indicates the change of address from 604 & 606 Chestnut St., and 1025 and 1027 Ridge Ave., Philadelphia to Oxford & Mascher Sts. We closed out our retail business in Philadelphia at 604 and 606 Chestnut St. and transferred all correspondence to the Mascher & Oxford Sts. address. This happened in the year 1900.

Q. 99. Was the factory transferred from Ridge Ave. to Mascher and Oxford Sts. at the time that the offices were transferred?

A. The Mascher and Oxford Sts. factory was established previous to our closing the store. We operated the Ridge Ave. factory for a [473] short period of time after establishing the new factory at Mascher and Oxford Sts. We continued at Ridge Ave. until our lease expired. We probably continued the Ridge Ave. plant for 4 or 5 months, to the best of my recollection.

Q. 100. Please turn to p. 21 of the catalogue and describe how the horn shown with the Graphophone Grand machine on that page was made.

By Mr. DUNCAN.—Objected to as leading.

A. This horn represents the type of horn which I have mentioned as full spun. This type of horn

(Deposition of Ellsworth A. Hawthorne.)

was made in sections, tapered throughout its length, with curved edges and brazed together and of several sections according to the dimensions of the horn.

Q. 101. Please describe the shape of the sections of which this horn for the Graphophone Grand machine was composed.

A. The sections were cut from strips of brass one end of which was wide, the strips gradually tapering. The edges of the metal were curved and shape was given to the horn so as to have it tapering throughout its entire length by forming the sections into shape by hand with hammers over mandrels.

Q. 102. Please turn to p. 33 of the said catalogue and state in whose handwriting the words written on that page are.

A. They are in my handwriting.

Q. 103. Please describe the manner in which the horns shown on that page No. 33 were made.

By Mr. DUNCAN.—Objected to as leading.

A. By cutting strips of metal tapering and curved throughout their length, wide at one end and narrow at the other, forming the horns by hand operations over mandrels to give them the necessary flaring effect. In fact, on this same page of the catalogue, p. 33, we mention "fifty-six inch with flaring bell."

Q. 104. On said page 33 it is said "these horns are made seamless." Please explain this statement.

By Mr. DUNCAN.—Same objection. [474]

A. The horns when brazed gave no evidence to

(Deposition of Ellsworth A. Hawthorne.)

the eye of having seams although in their construction seams were made or at least the edges of the metal brazed together in such a manner so that the seam could not be discerned.

By Mr. HICKS.—The catalogue just produced by the witness is offered in evidence and marked “Defendant’s Exhibit, Catalogue of 1898 of the Firm of Hawthorne & Sheble, Frank Z. Demarest, Examiner.”

Q. 105. I show you a horn made of metal strips secured together at their edges by lock seams. Please compare this horn, which I show you, for the purposes of illustration, with the aluminum horns which were made as testified by you by Hawthorne & Sheble.

By Mr. DUNCAN.—Objected to as leading.

A. The horns made of aluminum by Hawthorne & Sheble differed from this horn as the aluminum horns were made round at the bell. This particular horn is made with scalloped leaves. We made horns with scalloped leaves previous to 1900 but they were made of glass. The aluminum horns were formed by hand and for this purpose mandrels to impart shape to the horns were used, also raw-hide and wooden mallets to form seams, break edges, etc. The horn you show me is made with tools throughout. The aluminum horns we manufactured as well as the shorter type of full-spun, brazed brass horns were hand product.

Q. 106. Are there any other differences in the horn I have just shown to you and the aluminum

(Deposition of Ellsworth A. Hawthorne.)

horns that were made by Hawthorne & Sheble?

By Mr. DUNCAN.—Same objection.

A. The sections were more circular in the hand-made horn. Then again we used a special elbow for the aluminum horn. These elbows were made of Franklin metal, and were produced by a system of die casting. They were reversible, a large horn fitting in the large end of the elbow and the smaller end being adapted for the smaller type of aluminum horn.

Q. 107. Please compare this horn that I have just shown to you with the aluminum horn made by Hawthorne & Sheble with respect to the [475] manner of joining the different sections together at their edges.

By Mr. DUNCAN.—Objected to as leading.

A. Therein they are similar. The sections of the aluminum horns were made of tapering and curved strips of metal.

By Mr. HICKS.—The horn shown to the witness is offered in evidence and marked "Defendant's Exhibit, Horn Shown to Mr. Hawthorne for Comparison with the Aluminum Horns made by Howthorne & Sheble, Frank Z. Demarest, Examiner."

By Mr. DUNCAN.—Objected to as incompetent, immaterial and not properly proven.

Direct examination closed.

Cross-examination by Mr. DUNCAN.

XQ. 108. Who made the model horn shown you on your direct examination and just offered in evidence by defendant's counsel, immediately after

(Deposition of Ellsworth A. Hawthorne.)

your answer to Q. 107?

A. Of my own knowledge I don't know.

XQ. 109. When did you first see this exhibit?

A. This morning.

XQ. 110. Is it not a model made for the purposes of this suit? A. I presume so.

XQ. 111. How long after you had moved to Mascher and Oxford Sts. did you continue circulating the catalogue you produced this morning and which was offered in evidence as "Defendant's Exhibit, Catalogue of 1898"?

A. To the best of my recollection we discontinued its use about the year 1900. Possibly we had a few copies in 1901.

XQ. 112. Did you at any time prior to 1901, make a brass horn that was spun out of a single piece of metal?

A. We made all kinds of horns spun out of single pieces of metal that were practical. You can spin metal of any kind only a certain depth. Such horns were small horns and very short.

XQ. 113. Did you, however, prior to 1901, make a brass horn that was spun out of a single piece of metal?

A. We have always made horns spun out of a single sheet of metal but they have always been small horns. [476]

XQ. 114. And have you subsequent to 1901, up to the time when the Hawthorne & Sheble Mfg. Co. went out of business made a brass horn spun out of a single piece of metal?

(Deposition of Ellsworth A. Hawthorne.)

A. Hawthorne & Sheble and Hawthorne & Sheble Mfg. Co. made horns full-spun out of a single sheet of metal but not thirty-six, forty-two or fifty-six inches in length. Such horns were confined to small horns.

XQ. 115. Did Hawthorne & Sheble or the Hawthorne & Sheble Mfg. Co. ever make up any aluminum horns spun out of a single sheet of metal?

A. Yes. They have made them of all kinds, styles and types known to the metal trade, full-spun, out of one piece of metal, sectional, made up of several pieces of metal and in combination with other metals.

XQ. 116. What is meant by the term full-spun?

A. It was a term coined by Hawthorne & Sheble. We had to have some designation, and I coined the word "full-spun" and applied it to horns that were made of sections and brazed together because after completing the horn by cutting out the sections as previously described in my testimony, wide at one end and narrow at the other, tapering and curved throughout its length and brazed, the horns were given a finish by running a spinning tool over them. Hence I applied the word "full-spun" to the product.

XQ. 117. What was the significance of the adjective "full" in the phrase "full-spun"?

A. No particular significance except to round out the phrase.

XQ. 118. For exactly what purpose was the spin-

(Deposition of Ellsworth A. Hawthorne.)

ning-tool used in connection with your full-spun brass horn?

A. To smooth over the metal and harden it.

XQ. 119. Did it have anything to do with the shaping of the metal? A. Very little.

XQ. 120. Did it have any effect upon the shape of the horn?

A. It took out the wrinkles, smoothed up and hardened the metal. [477] The horns were given their shape and their contour before the application of the spinning tool.

XQ. 121. And are you quite positive that the spinning tool had nothing to do with forming the horn into its general form or contour but simply operated to smooth the surface and take out any wrinkles.

A. On small horns spun from one piece of metal the spinning tool and spinning chuck had everything to do with the shape and the contour of the horn, as the horn was given its shape by such a process, but in the instance of the large horns such as we termed our full-spun, flaring bell, concert type, etc., these horns were made in the manner I have described and the spinning tool was used merely to take out the wrinkles, harden the metal and smooth it up. I am doing this type of work every day in my present factory, but not for phonograph uses.

XQ. 122. Do I understand you to testify that horns made entirely of aluminum were regularly sold by your firm or your comany prior to 1901?

A. They were.

(Deposition of Ellsworth A. Hawthorne.)

XQ. 123. Under what names or trade designations were these all-aluminum horns sold by you prior to 1901?

A. Aluminum horns, exhibition horns, special horns.

XQ. 124. In what different ways were your all-aluminum horns made prior to 1901?

A. We used about every method known or that we knew as applied to the art from a mechanical standpoint. They were made out of sections with longitudinal seams. Others were made with what we termed a top portion of sections with longitudinal seams to which we reamed a bell. Others were made as closely as possible in imitation of the Kaiser horn. Others were made of a combination of tin and aluminum.

XQ. 125. How did you make up the aluminum horns that you say were made as closely as possible in imitation of the Kaiser horn?

A. These horns were made sectional with tapered strips, wide at one end and narrow at the other, with longitudinal seams. At the smaller [478] end we fastened a tube of aluminum and sometimes of brass, this tube being spun of one piece of metal. To other types of aluminum horns we attached elbows of tin, white metal, die castings, etc.

XQ. 126. When was it that you made aluminum horns in imitation of the Kaiser horn?

A. About 1900, possibly the latter part of 1898.

XQ. 127. To whom did you sell these aluminum horns made in imitation of the Kaiser horn?

(Deposition of Ellsworth A. Hawthorne.)

A. We did not make very many because they were of expensive type. We produced a number for use with the Graphophone Grand in the year 1900 and tried to introduce them to our trade but they objected to the price. I am positive we sold some of this type of horn to the American Graphophone Co. in 1900; also to the Eastern Talking Machine Co., 176 Tremont St., Boston, Mass., Pardee, Ellenberger & Co., of New Haven, etc.

XQ. 128. How many of these aluminum horns made in imitation of the Kaiser horn did you actually sell?

A. Hawthorne & Sheble and Hawthorne & Sheble Mfg. Co. manufactured a very large number of aluminum horns of all types. It would be impossible for me to answer your question correctly. I do not know.

XQ. 129. Is it not a fact that the aluminum horns you made for the Graphophone Grand were spun out of a single piece of metal?

A. They undoubtedly used some horns of that type but they were very small. The Graphophone Grand, on account of its mechanical construction and the fact that it was the loudest talking machine ever invented, necessarily required a large horn as I have previously testified that the reproduction from a talking machine in quality, strength of tone, etc., is one due to dimensions of the horn. Hence we always advocated horns from 42 inches in length up to 72 inches in length for use with the Graphophone Grand.

(Deposition of Ellsworth A. Hawthorne.)

XQ. 130. How long did your company continue to make and put upon the market aluminum horns spun from a single piece of metal? [479]

A. But a short period. The horn was too small; it was not popular; the trade wanted large horns. Large horns cannot be spun out of a single piece of metal. I will qualify this by stating that probably they could be but it would require special machinery, special tools and a special man built on gigantic proportions to do the spinning.

XQ. 131. Did you experience any difficulty in making your small aluminum horns spun from a single piece of metal?

A. No particular difficulty in producing the small horn a few inches in length.

XQ. 132. Over what period of time did your firm or your company make up horns the bells of which were spun aluminum?

A. Hawthorne & Sheble made them until the concern was merged into the Hawthorne & Sheble Mfg. Co.; and the Hawthorne & Sheble Mfg. Co. continued to make them up to the time they discontinued business, in 1909, according to demand.

XQ. 133. Your all-spun brass horns as illustrated in your catalogue offered in evidence this morning, were, when finished, substantially, a single piece of metal of smooth contour, were they not?

A. They had that appearance. The horns were what we termed "cut-down" on a polishing head, the action of which was to smooth over the rough parts and give the article the appearance of one

(Deposition of Ellsworth A. Hawthorne.)

piece of metal. This was done by hand in our polishing deartment.

XQ. 134. Have you now fully described all of the steps that you say constituted the process of making the all-spun or full-spun brass horns that you say your company made up out of sections of brass?

A. With possibly the exception of stating that the flare of the horn was governed largely by the skill of the workman. This was hand work and was done with a ballteen hammer. The horns being flared by the use of this hammer in stretching the metal to the desired form by striking the metal a sufficient number of blows to stretch it to, the flaring shape required after which the sections were brazed together in the manner previously described. [480]

XQ. 135. Do you wish to add anything further in order to give a complete description of the full process of forming the finished all-spun or full-spun brass horn?

A. I believe I have covered the process fully with the possible exception of minor details such as the workman marking out the brass with a templet pattern, cutting with snips or shears and the ordinary operations of a workman in making such a horn. The larger horns were annealed and then re-stretched by the hammering process. It is a number of years since I have watched these operations and possibly some slight details may have escaped.

XQ. 136. After the sections were formed and brazed together and the horn thus formed were any other steps taken in the finishing of the horn than

(Deposition of Ellsworth A. Hawthorne.)

those you have already described, and if so what?

A. The bells were strengthened by having wires placed in them. I do not recollect any other details.

XQ. 137. And where were the wires placed, that you have just referred to?

A. It is customary in almost all horns to wire the bells. By this I mean that possibly a quarter or one half inch of the metal was turned over and many instances of wire inserted underneath the turned-over portions of the metal and along the edge.

XQ. 138. In the manufacture of your all-spun brass horns at what stage of the process were the edges of the bell turned over upon the wire reinforcement, and how was this done?

A. After the horn was completed. The wires are inserted in the horns by a small pair of wheels that are revolved by hand, the operator holding the horn perpendicular and resting the horn on the shoulder. As they revolve the horns they feed the wire. This can be done on circular horns or on horns irregular in shape. The same method is employed, generally, throughout the metal manufacturing trade for the purpose of making household utensils, etc.

XQ. 139. When did your company take up the manufacture and sale of [481] the B. & G. horn?

A. In the latter part of 1898, 1899, etc.

XQ. 140. In what pages of the catalogue offered in evidence this morning are the B. & G. horns described or illustrated?

A. The B. & G. means black and gold and had reference to horns that were made with enameled bodies

(Deposition of Ellsworth A. Hawthorne.)

or ordinary Japan bodies. Such horns have been made and sold for general use since the latter part of 1898. There are no horns of that particular type illustrated in our catalogue and that is accounted for by the fact that the Tea Tray Co. of Newark, New Jersey, who were the competitors of the Hawthorne & Sheble Mfg. Co. and also of Hawthorne & Sheble, made particular efforts to compete against our particular concern with B. & G. horns. We endeavored to ignore that competition because we preferred to sell the higher priced horns, but we made the B. & G. because some of our customers demanded that type, and in later publications we were forced to offer the B. & G. horn. Eventually the B. & G. horn practically superseded all-spun, all-brass and all-aluminum horns, mainly because they cost a great deal less money. The top of the B. & G. horn was made of steel and cut the cost of manufacture of the horns from 25 to 40%.

XQ. 141. Please read Mr. Frank H. Stewart's answer to Q. 14, relative to aluminum horns made in segments by your company, and state whether you agree with this description of the process referred to.

By Mr. HICKS.—Objected to as not proper cross-examination.

A. The answer in the main is correct with the exception that the first aluminum horns that we manufactured were made almost entirely by hand processes.

XQ. 142. Isn't it a fact that the only horn containing aluminum, that your company sold prior to 1901,

(Deposition of Ellsworth A. Hawthorne.)

in any substantial quantity, was the type of horn that was provided with an aluminum spun bell that was fastened to a tin body? [482]

A. No. We sold all types of aluminum horns and made a specialty of all-aluminum horns. We at no time did what I would call a large business in aluminum horns. They were expensive and very easily damaged. Our customers would buy samples, possibly order a few, and then become discouraged on account of the troubles mentioned.

XQ. 143. You did make and sell aluminum horns with spun bells, did you not, prior to 1901?

A. We did.

XQ. 144. How were these horns constructed?

A. Some with aluminum bodies with longitudinal seams; some constructed entirely of aluminum with longitudinal seams provided with a smaller end spun from aluminum or brass; some with aluminum bodies with brass bells; others with tin bodies and aluminum bells; others of all aluminum, to the smaller end of which we attached connections to the phonographs, tapering throughout the entire length.

XQ. 145. I call your attention to the description of aluminum horns found at the top of p. 40 of your catalogue in evidence, which reads as follows:

“Aluminum horns. Very brilliant in tone, attractive in appearance. The horns are handsomely polished, with spun bells, very light in weight, and formed without the use of solder. The 18-inch horn can be used without a supporting stand.

(Deposition of Ellsworth A. Hawthorne.)

18-inch, with flaring bell, \$5.00

30-inch, with flaring bell, \$7.50

36-inch with bell 19½ inch.,

Special Exhibition Horn, 15.00"

Limiting yourself to the horns referred to in that description please state how those horns were constructed and how the spun bell was formed on or attached to said horns.

A. The catalogue states that the horns were provided with spun bell; however this catalogue was, I believe, about the first we ever issued. The horns described in the catalogue were made with the body portion cut from sections of metal, tapering, and were fastened together with longitudinal seams. The bells were spun and what we termed reamed to the horn. Horns of which we have sold the largest number are not even mentioned in this catalogue. It may be possible [483] that the special exhibition horn had reference to the aluminum horn I have previously described.

XQ. 146. Please state whether the quoted portion of p. 40 is the only portion of your catalogue, offered in evidence, that describes aluminum horns.

A. I do not notice them mentioned in the catalogue elsewhere except in the index, and also on p. 46, mentioned is made of several different types of horns all aluminum, aluminum and tin, etc. Special mention is made of an aluminum horn for reproduction, special for exhibition purposes.

XQ. 147. I call your attention to the testimony of Mr. Stewart at XQ. 162 reading as follows:

(Deposition of Ellsworth A. Hawthorne.)

XQ. 162. These glass horns as well as the B. & G. horns, were superseded by the type of horn as the flower horn, were they not?

“Practically so, that is, as the style changed the goods we manufactured changed.”

Please state whether you agree with Mr. Stewart's answer to that question.

By Mr. HICKS.—Objected to as improper cross-examination.

A. The flower horn became popular about 1905—1906 and on. This was not due, however, to the superior reproducing qualities of the horn. Its popularity was undoubtedly due to the variety of finish that could be given to the horn, imitations made, the blending of paints and enamel. Moreover, it was a cheap horn to construct and could be made of cheap material. From selling horns at \$35.00 each on the advent of the flower horn they dropped as low \$.50 each.

XQ. 148. And it is a fact, is it not, that in 1905 or 1906 or thereabouts the so-called flower horn superseded the so-called B. & G. horn that you had previously been selling in large quantities?

A. Hawthorne & Sheble, for domestic uses and F. M. Prescott, for export trade, introduced the flower horn with scalloped edges in 1899. We decorated it and pushed the horns strenuously. Those [484] flower horns, however, were made of glass and were expensive to manufacture, easily broken, and it was not until the flower horn made of metal in imitation of the glass horn appeared and due to

(Deposition of Ellsworth A. Hawthorne.)

its cheapness, different features of decoration and less liability of damage that the flower horn business took an impetus. The cheap metal flower horn superseded the glass horn for the reasons given.

XQ. 149. I call your attention to the testimony of Mr. Stewart to the following, "XQ. 163. The glass and the B. & G. brass horn were of practically the same general contour, were they not?

A. They were."

Do you agree with Mr. Stewart?

By Mr. HICKS.—Same objection.

A. The circular printed by Hawthorne & Sheble Mfg. Co. in 1900 indicates the appearance of the flower horn and in the main Mr. Stewart is correct because he undoubtedly had in mind several other types of glass horns that we sold as shown in the circular. We did make and we did sell a glass horn with scalloped edges, decorated in imitation of a flower, in 1899, 1900, as shown in the circular.

XQ. 150. Referring to the circular of glass horns offered in evidence by the defendant, please state in whose handwriting are the words "morning-glory flower horn," "flower," exhibit "A," "E. A. Hawthorne," and "printed in 1900," appearing at different parts of the circular.

A. That is in my handwriting.

XQ. 151. Were those annotations made by you at or about the time you made your affidavit in this case, bearing date the third day of June, 1913?

A. Some time previous thereto.

XQ. 152. When did you make these annotations

(Deposition of Ellsworth A. Hawthorne.)
and under what circumstances?

A. I made the annotations when I came across the circular in regard to the glass horns of the flower type, with scalloped edges.

XQ. 153. And when was that?

A. I do not know the exact date.

XQ. 154. Was it this year? A. Yes. [485]

XQ. 155. And was it the same time you made the annotation on the margin of p. 33 of the catalogue you produced this morning and offered in evidence?

A. Previous thereto, I think, as I found the circular before I found the catalogue.

XQ. 156. When did you find the catalogue?

A. Some time in the early part of 1913.

XQ. 157. How long after you found the catalogue offered in evidence this morning did you make the annotation on p. 33?

A. It is dated June 3d, 1913, and I presume that is the date I made the annotation on p. 33.

XQ. 158. Did you have this catalogue in your possession at the time you made your affidavit for use on the motion for preliminary injunction in this case A. I did.

XQ. 159. Was the spinning tool used on the inside of the flaring mouth or bell of the spun-brass horns illustrated on p. 33 of your catalogue. A. No, sir.

XQ. 160. Do I understand that you impression is that the spinning tool was not used on the inside of the horn at all? A. No, sir, it was not.

XQ. 161. Referring to the fifty-six inch spun-brass exhibition horns with a narrow bell illustrated on

(Deposition of Ellsworth A. Hawthorne.)

p. 20 of the catalogue please state how those horns were constructed.

A. The method of construction was similar to the method of making an exhibitor's flaring bell horn, illustrated on the same page.

XQ. 162. And was the same method used in making these two horns as in making the horns described on p. 33?

A. Same methods, differing in a degree of dimensions, the narrow bell horn containing less metal as compared to the flaring bell horn and this applies to the larger horn illustrated on p. 33.

XQ. 163. Please state what are the bands that are shown surrounding the body of the horns on p. 20.

[486]

A. These bands were for finish and, in some instances, were where we connected the horns together.

XQ. 164. What do you mean by the last statement "where we connected the horns together"?

A. On the larger types of horn we had to braze the horns of more sections of metal than the smaller type; and on the exhibitors' horns we made the distinction of *putting the band* to give it appearance as compared with fifty-six inch horn of similar construction, shown on p. 33, on which will note there are no bands on any of the horns. You will notice on p. 21 a photograph of the fifty-six inch flaring bell horn which is supplied with a very slight band.

XQ. 165. Do I understand that in some cases you made up your large brass horns by forming a conical section that tapered down to the small end of the

(Deposition of Ellsworth A. Hawthorne.)

horn and forming a second section in the form of a truncated cone for the bell end of the horn and then brazing these two sections together, in some instances placing a band around the seam formed where the two sections were joined?

A. On some of the larger types of horns we adopted this method. The bell was formed of strips of metal tapered and curved and brazed together and then we would braze that portion to other portions of the horn. This method was employed, however, for only the largest types on account of the width of the metal and the difficulty of obtaining metal wide enough to cut single strips large enough to obtain the dimensions. Horns of lesser degree were made of several sections tapered throughout and brazed together.

XQ. 166. Did you always supply bands to cover the circular juncture of the body portion or the bell portion of the all-brass horns made in accordance with the method referred to in the last question?

A. The horns illustrated on p. 33 are termed spun-brass horns; and the illustration speaks for itself. The majority of these types of construction were sold without bands and it was only in instances where very large horns were made that we supplied the bands. [487]

XQ. 167. Do I understand then that in some cases where you made up your spun-brass horn by brazing together two conical sections you did not use a band to surround the circular juncture of the sections?

A. I have already stated that a majority of the

(Deposition of Ellsworth A. Hawthorne.)

horns of that type of construction were without bands.

XQ. 168. And is it not a fact that the majority of your spun-brass horns of thirty inches and upwards were made of this construction, namely, two conical sections brazed together? A. No.

XQ. 169. In what sizes was this construction followed?

A. I have previously stated we applied this method of construction to the largest types, only, fifty-six inches and above.

XQ. 170. Are you familiar with the method followed by your company in making the flower horns of metal from 1905 on? I refer to the so-called flower horns illustrated on the right-hand side at the center of p. 8 of the Talking Machine World of Jan. 15, 1905. A. Yes.

XQ. 171. Please state how those horns were made and assembled.

A. In the initial stages they were constructed entirely by hand, that is to say, hand tools, that is to say, tinsmith's hand tools were used. The strips of metal were cut by being first scored by aid of a pattern or templet, the sections cut with the tinsmith's shears or snips; the edges were broken or turned over by means of a mallet and a form; the seams constructed in the same manner. The first horns that I recollect were circular and were wired in the manner I previously described. Later, in 1904, we endeavored to obtain a patent for our machine for making longitudinal seams with a power-groover; but we

(Deposition of Ellsworth A. Hawthorne.)

were not successful. As the change in style from other types of horns to the flower horns grew we changed our methods and cut the leaves for the horn with blanking dies, turned over the edges by the power machine device of our own construction and made the tinsmith's seam in the horn with a curved longitudinal groover. We practically eliminated hand labor. [488]

XQ. 172. Did you have occasion to become familiar with the form of the sections that were used in making up your scalloped flower horn in 1905 and succeeding years? A. I did.

XQ. 173. Please describe the shape of the sections used in your flower horn from 1905 on.

A. The first flower horns that we manufactured, as I recollect the shape, were constructed of sections wide at one end and tapering to the other end, at the smaller end being fastened to a tin tube which was reamed or fastened with a bead to the larger portion of the horn.

RECESS.

XQ. 174. In the early part of 1905 your company widely advertised the flower horn, did it not, as it appears in the advertisement, a copy of which is in evidence, taken from the Talking Machine World of the fifteenth of January, 1905?

A. We advertised the flower horn in the early part of 1904, as we made them at that time. We advertised the flower extensively from 1898 and 1899 forward. The flower horns with scalloped edges were of the glass type. These were decorated by

(Deposition of Ellsworth A. Hawthorne.)

hand with fancy decorations same as the cheaper flower horn made of metal. Our flower horn was constructed along the line of our own ideas. I understand the patent at issue covers a type of flower horn with raised ribs, which I consider an impractical method of making a metal horn. We sold large quantities of flower horns of the cheaper metal variety all through 1904.

By Mr. DUNCAN.—Answer objected to as unresponsive and volunteered.

XQ. 175. Is it not a fact that commencing with the early part of 1905 your company widely advertised the flower horn that appears in the advertisement of the Talking Machine World of January 15, 1905?

A. Yes.

XQ. 176. You took considerable space, did you not, in the Talking Machine World during the early part of 1905 in advertising the [489] flower horn that is illustrated in the advertisement in evidence of January 15, 1905?

A. We were large advertisers and took considerable space in the publication referred to from the date of its first issue. Possibly you will find our advertisement of the flower horn in the first issue of that paper.

XQ. 177. I show you certified photographic copies of p. 4 of the Talking Machine World of February 15, 1905, p. 7, of the same publication issue of March 15, 1905, and p. 18 of the same publication, issue of January 15, 1905 and ask you whether the pages in question do not show advertisements or illustrations

(Deposition of Ellsworth A. Hawthorne.)

and descriptive matter correctly illustrating and describing the flower horn then being made and offered for sale by your company.

By Mr. HICKS.—The subject matters of the articles shown to the witness are objected to as hearsay and secondary evidence, especially, the article in the Talking Machine World for January 15, 1905, p. 18.

A. The article referred to in the Talking Machine World of January 15th, 1905, is not an advertisement of Hawthorne & Sheble Mfg. Co. at least, it was not what we termed paid advertisement. It was a "write up" which was probably published by the editor as an expression of goodwill towards the corporation.

The reproductions of the half-page advertisement, similar in character, that appear in the issues of February, 15th, 1905, and March 15th, 1915, appear to be reproductions of advertisements of the Hawthorne & Sheble Mfg. Co.

Complainant's counsel asks that the photographic copies shown the witness be marked for identification as "Complainant's Exhibits for Identification, p. 18, Talking Machine World of January 15, 1905, p. 4 of February 15, 1905 and p. 7 of March 15, 1905."

XQ. 178. Please state, if you can, when you first made a metal talking horn with scalloped edges and with ribbed seams like that illustrated in the advertisement, "Defendant's Exhibit, p. 8 of the Talking Machine World of January 15, 1905." [490]

(Deposition of Ellsworth A. Hawthorne.)

A. The scalloped edged metal flower horn was first made by Hawthorne & Sheble Mfg. Co., probably in the latter part of 1903, but positively in the early part of 1904.

XQ. 179. How do you fix that date?

A. By letters and otherwise.

XQ. 180. Did you give any information to the editor of the Talking Machine World upon which the article appearing in the issue of January 15, 1905, p. 18, was based?

A. I do not think I did. It is customary with the editors of paid publications to create a friendly feeling with their advertisers by obtaining copies of their literature and writing articles along the lines of their business. I am now engaged in a *line which* several articles have appeared recently in regard to my company, that I did not know were to be published until I read them, and this probably applies in this instance.

XQ. 181. How long a horn is it feasible to spin in brass out of a single piece?

A. It is not feasible to spin horns of much greater than eighteen or twenty or twenty-four inches. Spinning machines are not made for articles spun of greater depth than I have mentioned.

XQ. 182. Have you made any horns of brass or other metal by drawing?

A. I have made portions of horns.

XQ. 183. What portions and what style of horns have you made by drawing?

A. Reamed-on bells. It is not practical to draw

(Deposition of Ellsworth A. Hawthorne.)

articles of great depth. Twelve inches deep is considered quite a long draw, but they have special presses that draw fire extinguishers or similar devices 18 or 20 inches or 24 inches in length.

XQ. 184. What is the deepest bell that you have drawn on your presses? A. Six inches.

XQ. 185. Referring to the narrow bell horn illustrated on p. 20 of your catalogue put in evidence this morning, please state just how the curled edges of the bell were turned back over the wire which [491] you think was used for reinforcing purposes.

A. This was probably put on the bell by turning over the metal with a small device consisting of two wheels and the wire inserted by the workman while holding the horn resting against his shoulder. There may have been no wire in this particular horn; we made them with and without.

XQ. 186. By what tools was the inside of the bell of this horn smoothed or finished?

A. Ground on an emery-wheel on a polishing lathe, smoothed with a special revolving wheel on a polishing lathe, and colored with a rag wheel on a similar type of machine.

XQ. 187. And how was the final impression of the bell of this horn given the shape shown in the illustration on p. 20?

A. The metal was, in the first instance, in the flat. The pattern was laid on the metal and the metal scored by the workman. It was then cut by hand by tinsmith's shears or snips, the flaring portion to be was wide; the smaller end to be was narrow. These

(Deposition of Ellsworth A. Hawthorne.)

parts were operated on by the workman with a ball-peen hammer. He formed the flare and taper of the horn by hammering and stretching the metal into the desired shape. After the necessary sections of metal were so treated, they were brazed together.

XQ. 188. Have you clearly in mind the shape of the several sections that you say were used in making up this horn? A. Fairly so.

XQ. 189. Will you please draw on a sheet of paper that I now hand you an outline of the sections that you say were used in making up this horn?

A. I have made two sketches. Sketch marked by me No. 1 indicates the first process of cutting the metal strip. Section No. 2 indicates the same strip after it has been trimmed by the workman and hammered over the mandrel so as to give it the flare shape and taper. I am not a draftsman and my sketches are crude, but they convey the idea. [492]

XQ. 190. Please mark these sketches for purposes of identification with your name, date, and the words "sketches illustrating sections of brass horn."

A. I have done so.

XQ. 191. Referring now to the metal scalloped edge horn illustrated on p. 8 of the Talking Machine World of January 15, 1905, please describe, as exactly as you can, the shape of the sections used in assembling said horn.

A. These sections are wide at the one end and taper gradually to the narrow end. To secure the scallop effect the larger end is cut in a segment of a circle.

These sections are fastened together by first turn-

(Deposition of Ellsworth A. Hawthorne.)

ing over the metal edge of each section each side and making a lock seam or what is known as tinsmith's seam with a power groover. The smaller end of the horn is a tin section, similar to a small funnel with a longitudinal rib, which can be either soldered or reamed to the body portion of the horn. Horns of this type are cheap in construction and can be sold at very low prices. Care has to be exercised to see that the seams are tight; otherwise the horn is likely to develop a rattle. It is worth about 5 or 6¢ a horn to construct them in the fashion shown outside of the cost of metal.

XQ. 192. In what manner are the several sections held together or in position relative to each other in the process of being assembled in the finished horn?

A. The sections have one side turned over and on one side of the section; the other side is turned over on the other side. A workman fastens the two together by simply inserting one edge of the metal into the other edge or bead. They are then placed in a grooving machine and the seams flattened down. When being passed through the edging machine by the workman turning over the metal on one side in one direction and the metal on the other side in the other direction it causes the sheet to assume the proper form for assembling. [493]

XQ. 193. Will you please draw on the sheet of paper I now hand you an outline of the form of the sections used in making up the scalloped horn illustrated in your advertisement of January 15, 1905, making the same for purposes of identification with

(Deposition of Ellsworth A. Hawthorne.)

your name, date and the words "sketch of section of scalloped metal flower horn"?

A. I have made the sketch requested, and have marked it as you have asked.

XQ. 194. Am I correct in understanding that your company has made this scalloped metal flower horn in large quantities since you commenced its manufacture in say, 1904, or thereabouts?

A. The Hawthorne & Sheble Mfg. Co. made large numbers of flower horns with scalloped edges probably from the latter part of 1903 on, but certainly from the early part of 1904, and they made aluminum horns practically of the flower type in 1898 and 1899.

XQ. 195. Is it not a fact that for a number of years the Hawthorne & Sheble Mfg. Co. furnished the Columbia Phonograph Co. or the American Graphophone Co. with its entire supply of scalloped metal flower horns of the construction illustrated in your advertisement of January 15, 1905?

A. We sold them large numbers of all types of horns. I do not believe we sold them all they purchased.

XQ. 196. For a number of years you supplied large numbers of scalloped metal flower horns of the construction illustrated in your advertisement of January 15, 1905, on p. 8, of the Talking Machine World to the Columbia Phonograph Co. or the American Graphophone Co.? A. Yes.

XQ. 197. And have you not also supplied these horns to the Victor Talking Machine Co., and the Edison Phonograph Co.? A. No.

(Deposition of Ellsworth A. Hawthorne.)

XQ. 198. Has your present company, the Hawthorne Mfg. Co., made and sold scalloped metal flower horns like those illustrated in the advertisement of January 15, 1905? [494]

A. Not enough to keep a horn organization together. They have purchased a few, I believe, mostly for export. I am not aware whether they even illustrated the flower horn at the present time in their domestic catalogue. By "they" I refer to the Columbia Phonograph Company. I understand the other talking machine companies are advertising they do not supply horns at the present time. The trend seems to be entirely for the so-called hornless type of machine.

XQ. 199. My question, however, was whether your present company has made and sold scalloped metal flower horns like those illustrated in the advertisement in question. Please state what the fact is in this regard.

A. We have supplied metal flower horns with scalloped edges in limited quantities to the Columbia Phono. Co. They are our only customers. We have never issued any literature whatever in regard to horns for photographs of any type nor have we solicited that kind of trade. Whatever horns we have made for the Columbia Phonograph Co. have been largely a matter of accommodation.

XQ. 200. Please state whether the horn I now show you was one that was made by the Hawthorne & Sheble Mfg. Co. or the firm of Hawthorne & Sheble.

By. Mr. HICKS.—Objected to as immaterial.

(Deposition of Ellsworth A. Hawthorne.)

A. This horn is similar to a type of aluminum bell and tin body horn that Hawthorne & Sheble and the Hawthorne & Sheble Mfg. Co. manufactured, but I am not able to state positively that it is the identical horn made by either concern; and similar horns were made by the Tea Tray Co., of Newark, New Jersey.

XQ. 201. This horn that I show you, however, is so similar to the tin and aluminum horns that were made by the Hawthorne & Sheble Mfg. Co., and by Hawthorne & Sheble, that you cannot state that it was not made by that concern? A. No.

XQ. 202. The aluminum bell with which this horn is provided is spun, [495] is it not?

A. It appears to be.

Complainant's counsel asks that the horn be marked for identification as "Complainant's Exhibit for Identification, Hawthorne & Sheble Tin and Aluminum Horn."

XQ. 203. Is the horn that I now show you one of the Kaiser horns that you say was on the market some time in 1898 or thereabouts?

A. It appears to be. And I should say that it was.

Complainant's counsel asks that the horn in question be marked for identification as "Complainant's Exhibit, Fiber Horn."

XQ. 204. After this Kaiser horn appeared on the market, did your firm or your company make a horn in imitation of it in fiber or paper?

A. We made one in imitation of the Kaiser horn, but larger and with more flare and of papier-maché. We also made horns in imitation of metal, brass and aluminum.

(Deposition of Ellsworth A. Hawthorne.)

XQ. 205. Have you previously described how you made the imitation Kaiser horn in brass?

A. I have.

XQ. 206 Please refer to your catalogue in evidence and point out any illustration therein that illustrates and describes the earliest concert horn of brass, that your firm or company made or sold.

A. There is a description of the full-spun brass horn on pp. 20, 21 and 33. The description on p. 33, which refers to the horns as "seamless," however, is incorrect; the horns had seams, but were brazed and constructed and finished in such a manner as to appear to eliminate seams.

XQ. 207. Does this catalogue illustrate or describe the 56-inch concert horn which you say you made for the firm of Hawthorne & Sheble out of brass or thereabouts? If so, please point to the illustration or description.

A. The illustration of spun-brass horns on p. 33 illustrates this type of horn; and on pages 20 and 21 illustrations are shown of full-spun brass horns.

XQ. 208. Do the illustrations on pp. 20 and 21 correctly illustrate [496] the 56-inch brass concert horn which you say you made for your firm in 1896?

A. Some of these horns were constructed as shown in the illustration and some without the band effect, which was largely for the purpose of relieving the appearance of the horn.

XQ. 209. Which of the illustrations in this catalogue show the shape or contour of the 56-inch concert horn which you say you made for your firm in 1896?

(Deposition of Ellsworth A. Hawthorne.)

A. Particularly in p. 21 as it is a photograph.

XQ. 210. Then, as I understand the photograph on p. 21 correctly represents the shape of the 56-inch brass concert horns that you say you made in 1896?

A. It does.

XQ. 211. Is it not a fact that the practice followed by Hawthorne & Sheble and the Hawthorne & Sheble Mfg. Co., in making and assembling its sectional horns was to take a rectangular, oblong piece of sheet metal and to cut it diagonally so as to form, in an economical manner, two tapering strips of metal which could be used in the manufacture of a horn by joining their edges together after inverting one of the two tapering strips and then assembling said strips with the other tapering strip so as to build up the horn?

A. The practice of taking a rectangular piece of metal and cutting the strips of metal therefrom for the purpose of forming the horn has been practiced in horn constructions since 1893, to my knowledge. Hawthorne & Sheble did not practice this construction until after their horn factory was organized in the early part of 1898. Hawthorne & Sheble Mfg. Co. continued this practice after the formation of the corporation.

XQ. 212. I show you a rough sketch containing diagram 3 and diagram 4 and ask whether, assuming that diagram No. 3 represents an oblong rectangular piece of sheet metal, this diagram together with diagram No. 4 do not correctly illustrate the method followed by Hawthorne & Sheble and the Hawthorne

(Deposition of Ellsworth A. Hawthorne.)

& Sheble Mfg. Co. prior to 1900 in assembling horns out of sections of metal.

A. It represents types of horns that were formed out of sections [497] of metal such, for instance, as our "all-brass horn." Our "full-spun horn" so-called, was made of sections wide at one end and narrow at the other, trimmed with shears, tapering and curved.

XQ. 213. Did you make any aluminum or tin horns according to the method illustrated in diagrams 3 and 4?

A. We did and we also made aluminum and brass horns of tapered curved strips of metal, previously described by me.

XQ. 214. Please turn to your catalogue and point out in it any horns that were made of sections cut from oblong, rectangular pieces of metal in the manner illustrated, diagrams 3 and 4.

A. On p. 31 and p. 32 are types of horns such as you refer to.

XQ. 215. Which horns on p. 31 do you think were built up of sections in the manner of diagrams 3 and 4?

A. Ten-inch Japaned tin for Eagle graphophone; 14-inch Japaned tin. We cut these horns from sheets of tin with blanking dies just the same as in later years we cut the leaves for the flower horn with blanking dies. The process is identical.

XQ. 216. Of how many sections do you claim the ten-inch Japaned tin horn for the Eagle graphophone and of how many sections the 14-inch Japaned tin

(Deposition of Ellsworth A. Hawthorne.)
horn were made?

A. Each of one section in the body portion. We have made 14-inch brass horns with 2 sections; the purpose was to enable us to purchase the brass at lower cost as the wholesale price of brass was based on widths of material. Over certain widths of material the brass carries an extra and for this reason it was more economical to use the narrow strips of metal for the purpose of obtaining the sections.

XQ. 217. Which of the horns illustrated on p. 32 do you think were made up of sections formed and joined in the manner set forth in diagram 3 and 4 above referred to?

A. Possibly all of them. The silveroid horn was a zinc horn and [498] zinc does not carry an extra on account of width so that it is quite likely that we cut these horns by reversing the pattern. We, of course, did not make blanking dies for such large horns as that would be impossible.

XQ. 219. Of how many tapering sections is it your belief that the silveroid horns illustrated on p. 32 of your catalogue were made up?

A. For the reasons already given, probably, one section. Some of the larger may have been made of several sections.

XQ. 220. The sketch marked diagram 3 and diagram 4 is a correct reproduction, is it not, of a sketch marked in your handwriting diagram No. 3 and diagram No. 4, constituting part of your affidavit of June 3, is it not? A. Yes.

XQ. 221. In the affidavit you make the following

(Deposition of Ellsworth A. Hawthorne.)
descriptive statement of this sketch, do you not?

“Diagram No. 3 shows a rectangular, oblong piece of sheet metal cut diagonally, so as to form, in an economical manner, two tapering strips of metal which can be used in the manufacture of a horn by joining their edges together after inverting one of the tapering strips and assembling it with other tapering strips in the manner shown in diagram No. 4, according to the method employed by said firm of Hawthorne & Sheble prior to the year 1900.”

A. Yes.

XQ. 222. And this statement is correct, is it?

A. It is.

Complainant's counsel asks that the diagrams shown the witness in connection with XQ. 212, and following questions be marked for identification as “Complainant's Exhibit, for Identification, Diagram of Hawthorne & Sheble, Sections and Process of Assembling.”

XQ. 223. And was this method of cutting the sections and assembling the same into horns followed by the Hawthorne & Sheble Mfg. Co., when it succeeded the firm of Hawthorne & Sheble?

A. We followed this method for certain types of horn and for other types we cut the sections by hand where a tapering, curved section was desired. For the tapering sections similar to that shown in the diagram we cut them with shears.

XQ. 224. For purposes of identification will you please put your [499] name, and the date, Sept.

(Deposition of Ellsworth A. Hawthorne.)

30, 1913, on the sketch marked diagrams 3 and 4, above referred to? A. I have done so.

By Mr. HICKS.—If complainant's counsel desire to use the sketch just marked by the witness and which has been taken from the affidavit of the witness he should use the entire sketch consisting of diagrams numbered 1, 2, 3 and 4, since the omission of diagram numbered 1 and 2 makes the rest of the sketch misleading.

XQ. 225. Is it your claim that the horns illustrated in diagrams Nos. 1 and 2 of the sketch annexed to your affidavit of June 3d, 1913, were made in accordance with the method illustrated in diagrams 3 and 4 attached to your affidavit?

A. Diagram No. 1 and No. 2 represents horns that were constructed out of strips of metal cut by hand and tapering and curved, these sections being brazed together in the form that I have previously described. Diagrams No. 3 and 4 indicates the method of making horns out of one or more sections, similar to the horns illustrated on p. 32 of the Hawthorne & Sheble catalogue.

XQ. 226. Referring to your catalogue in evidence please point out any horns there illustrated or described, that are made up of a number of sections of metal cut and joined in the manner illustrated in diagrams 3 and 4, and described in that portion of your affidavit quoted in connection with XQ. 221.

A. On pp. 31 and 32 such horns are illustrated.

XQ. 227. And yet, as I understand, you say that certainly in most instances the horns illustrated on

(Deposition of Ellsworth A. Hawthorne.)

these pages were made, as far as the body is concerned, of one piece of metal. Is that correct?

A. I did not say so. I said the small horns were made of one piece of metal; the larger horns of two or more.

XQ. 228. What, according to your belief, was the largest number of sections used in the body of any one of the horns illustrated on pp. 31 and 32?

A. I have made horns 26 inches in length of brass, formed of at least 2 sections of metal. This horn is illustrated on p. 31. They [500] were made of two sections on account of the extra cost of the wide brass and had longitudinal seams throughout their entire length. The 56 inch Japaned tin horn I have made of at least 3 and, I believe, more sections of metal. For the reasons previously given, the silver-oid horns may or may not have been made of more than one sections of metal with longitudinal seams.

XQ. 229. How were the flaring bells made in the bodies of the horns illustrated on pp. 31 and 32?

A. Some were soldered; some were reamed or beaded.

XQ. 230. Is it not a fact that your company made brass horns composed of a truncated cone of spun brass constituting the bell end of the horn and a conical section of spun brass constituting the small end of the horn, each of which sections was spun or drawn out from a single sheet of metal, the two sections being brazed together to form the complete horn?

A. We have made such horns, but they were very large horns.

Cross-examination closed.

(Deposition of Ellsworth A. Hawthorne.)

Redirect Examination by Mr. HICKS.

RDQ. 231. Is this a complete copy of diagram Nos. 1, 2, 3 and 4, annexed to your affidavit?

A. It is.

By Mr. HICKS.—The paper shown to the witness is offered in evidence and marked “Defendant’s Exhibit, diagrams No. 1, 2, 3 and 4, Annexed to the Affidavit of the Witness, Frank Z. Demarest, Examiner.”

RDQ. 232. Please refer to the letter of Matthew P. Doyle, dated Sept. 22, 1904, to the Hawthorne & Sheble Mfg. Co. and state whether at the time that that letter was received by you the Hawthorne & Sheble Mfg. Co. was manufacturing horns such as are described in the letter.

By Mr. DUNCAN.—Objected to as incompetent and leading.

A. They are.

RDQ. 233. Have you any other letter of about the same date, referring to the manufacture of such horns by the Hawthorne & Sheble Mfg. Co.?

By Mr. DUNCAN.—Same objection.

A. I have. A letter dated Sept. 26, 1904, and addressed to me c/o the [501] Hotel Cecil, Boston, Mass.

RDQ. 234. When did that letter come into your possession?

A. I probably received it in Boston, Sept. 27 or 28, 1904.

RDQ. 235. From whom did the letter come and how did you receive it?

(Deposition of Ellsworth A. Hawthorne.)

A. It was addressed to me by Mr. Horace Sheble, vice-president and treasurer of Hawthorne & Sheble Mfg. Co. and was received by me through the mail.

RDQ. 236. The letter mentions "our flower silk horns." What horns were those?

A. This was a horn of the familiar flower shape and covered with a bookbinder's cloth, which we advertised as silk-finish. It had the appearance of being covered with silk.

RDQ. 237. Please refer to the advertisement of Hawthorne & Sheble Mfg. Co. in the Talking Machine World for February 15, 1905, which was exhibited to you on cross-examination, and state what are the "silk-finish" horns mentioned in that advertisement.

A. It is the silk-finish horn of flower type referred to in Mr. Sheble's letter to me, of September 26, 1904. We had a patent issued to the Hawthorne & Sheble Mfg. Co. covering this novel method of putting a silk finish on a horn.

RDQ. 238. Mr. Sheble's letter of Sept. 26, 1904, does not appear to be signed. Please explain this fact.

A. I presume Mr. Sheble overlooked signing the letter. There is financial information contained in the letter, however, that would prove unquestionably that it was dictated or written by Mr. Sheble.

RDQ. 239. Do you recall the circumstances referred to in the letter?

A. I have a recollection of the time the Tea Tray Co. cut the price on flower horns. It was about this period and referred to by Mr. Sheble.

(Deposition of Ellsworth A. Hawthorne.)

RDQ. 240. Do you know for how long a time the Tea Tray Company had been marketing the flower horns previous to Sept. 26, 1904?

By Mr. DUNCAN.—Objected to as incompetent.

A. Since the early part of 1904 and, I believe, the latter part [502] of 1903. Of this latter I am not positive.

By Mr. HICKS.—The letter is offered in evidence and marked "Defendant's Exhibit, Letter of Horace Sheble to E. A. Hawthorne, of Sept. 26, 1904, Frank Z. Demarest, Examiner."

By Mr. DUNCAN.—Objected to as insufficiently proven and as incompetent proof.

By Mr. HICKS.—In what respect does complainant's counsel mean that the letter has been insufficiently proven? The objection is so indefinite that defendant's counsel is unable to meet complainant's counsel's objection.

By Mr. DUNCAN.—The alleged letter is unsigned and the witness had been led by a series of questions to assume knowledge which manifestly is dependant upon the genuineness of the letter.

RDQ. 241. What has become of the books, papers and records of Hawthorne & Sheble and Hawthorne & Sheble Mfg. Co.?

A. All the earlier records were destroyed by me in 1909. I have a few records in my possession, dated 1908 and 1909.

RDQ. 242. What has become of the goods, wares and merchandise of Hawthorne & Sheble and Haw-

(Deposition of Ellsworth A. Hawthorne.)

thorne & Sheble Mfg. Co., such as horns for phonographs etc.?

A. They were sold at public auction in Philadelphia several years ago.

RDQ. 243. Please look at U. S. Patent No. 491,421 of Feb. 7, 1893, to Gersdorff, Fig. 2 thereof, and state whether the instrument shown in Fig. 2 is or is not adapted for use as a horn for phonographs?

A. It is. I have seen phonograph horns constructed similar to figure 2 and I have seen phonograph horns constructed similar to figure 2 even including the perforated sheet. In fact I have made horns that way myself for some customers who had the idea that the perforated piece would take some of the blast out of the record, or clarify the tone.

RDQ. 244. How would the horn or funnel, such as is shown in said Fig. 2, compare with the ordinary type of flower horn with respect to the reproduction from a phonograph record? [503]

A. Dimension, for dimension, the results would be the same:

RDQ. 245. Please refer to "Defendant's Exhibit, Hawthorne & Sheble Fluted Horn" and state what was the sound-producing qualities of that horn?

A. There was no advantage in the fluted horn. The shape, contour of the horn, method of making, material made of, has little to do with the reproduction. This is governed, as I have previously testified, largely by the dimensions of the horn.

RDQ. 246. How often has the Talking Machine World been published?

(Deposition of Ellsworth A. Hawthorne.)

A. It is a monthly publication.

RDQ. 247. It appears that on Nov. 15, 1905, Vol. 1, No. 11 was issued? A. Yes.

RDQ. 248. Referring to the advertisement of Hawthorne & Sheble in the Talking Machine World of January 15, 1905, it would appear, then, would it not, that the issue of January 15, 1905, was the first issue of that publication?

A. I was largely responsible for the birth of the Talking Machine World and its first issue was of January, 1905.

RDQ. 249. Have you any of the horns made by Hawthorne & Sheble or the Hawthorne & Sheble Mfg. Co. in your possession at the present day, other than the fluted horn that has been offered in evidence?

A. I believe there are a few horns manufactured by Hawthorne & Sheble Mfg. Co., 14 inches in length, stored in a barn on our premises in Bridgeport. Other than these I do not know of any. These horns were made of tin, others were made of tin body with brass bell.

RDQ. 250. Have you, in your possession, any catalogue of Hawthorne & Sheble or the Hawthorne & Sheble Mfg. Co., published prior to April 14, 1904, other than the one which you have produced and which has been offered in evidence?

A. None of which I can positively assert in regard to the date.

RDQ. 251. Do you know where any of Hawthorne & Sheble or Hawthorne & Sheble Mfg. Co.'s horns or catalogues made or published prior [504] to April

(Deposition of Ellsworth A. Hawthorne.)

14, 1904, can be found, to-day, other than those which you have produced?

A. I do not. All their literature was destroyed by me when I closed the affairs of Hawthorne & Sheble Mfg. Co. several years ago.

Redirect examination closed.

Recross-examination by Mr. DUNCAN.

RXQ. 252. Did not your present company continue the manufacture of some articles previously made by the Hawthorne & Sheble Mfg. Co.?

A. The only articles have been a few horns for the Columbia Phonograph Company. We have not continued the manufacture of any other articles or devices made by the Hawthorne & Sheble Mfg. Co. Our present line is entirely different.

RXQ. 253. Have you any catalogue of the Hawthorne & Sheble Mfg. Co. other than that you have already produced and put in evidence, illustrating horns made by that company since the date of the catalogue already offered?

A. Yes. I here produce it.

RXQ. 254. This catalogue is marked No. 600, is it not, on the outside cover? A. It is.

RXQ. 255. Will you please mark the same for identification with your name and the present date?

A. I have done so.

RXQ. 256. Is it not a fact that the Hawthorne & Sheble Mfg. Co. made horns out of metal other than brass, composed of a truncated cone, spun or drawn, constituting the bell end of the horn, and a conical section spun or drawn, constituting the small end of

(Deposition of Ellsworth A. Hawthorne.)

the horn, each section being spun or drawn from a single sheet of metal and the two sections being joined to form the complete horn?

A. We may have done so.

RXQ. 257. This catalogue No. 600 was current during the early part of 1905, was it not?

A. I believe it was.

Recross-examination closed.

Re-redirect Examination by Mr. HICKS.

RRDQ. 258. According to your present recollection, how early was this [505] catalogue, No. 600, current among the trade?

By Mr. DUNCAN.—Objected to as incompetent and not calling for the best evidence.

A. I have tried my best to ascertain the correct date. I believe it was issued in the latter part of 1903; I feel sure it was issued in the early part of 1904.

By Mr. DUNCAN.—Answer objected to as incompetent and based on surmise.

By Mr. HICKS.—Inasmuch as the complainant's counsel required the witness to produce the catalogue and interrogated him in regard thereto, the catalogue is offered in evidence and marked "Defendant's Exhibit, Hawthorne & Sheble Mfg. Co.'s Catalogue No. 600, Frank Z. Demarest, Examiner."

Re-redirect examination closed.

Deposition closed.

Signature waived.

Sept. 30, 1913.

[**Deposition of William A. Lawrence, for Defendant.]**

WILLIAM A. LAWRENCE, being duly sworn as a witness on behalf of defendant, testifies as follows:

Direct Examination by Mr. HICKS.

Q. 1. Please state your name, age, residence and occupation.

A. William A. Lawrence; 47 East Orange, New Jersey; President of the Standard Metal Mfg. Co., manufacturing sheet metal goods.

Q. 2. Have you had any experience in the manufacture of horns for phonographs, and, if so, for how long?

A. We have been in that line of business for twelve years, commencing in the spring of 1902.

Q. 3. Please look at U. S. Patents No. 34,907 of Aug. 6, 1901, to McVeety & Ford (Design) and No. 699,928 of May 13, 1902, to McVeety & Ford and state whether you have made, in accordance with those two patents, any structure shown and described therein.

A. Yes, we made a horn as per patent numbers given, in possession of Mr. Hicks at the present time.

Q. 4. Referring to the structure made by you in accordance with the [506] McVeety & Ford Patents, you appear to have added to the small end thereof, a cone made of a single piece of metal. For what purpose or why did you add this small cone?

A. The foreman put it on by mistake, understanding it was to go on or to be attached.

(Deposition of William A. Lawrence.)

By Mr. HICKS.—The funnel produced by the witness is offered in evidence and marked “Defendant’s Exhibit, Model of the Funnel or Ventilator Shown in the McVeety & Ford Patents, Frank Z. Demarest, Examiner.”

By Mr. DUNCAN.—This exhibit is objected to on the ground that it incorrectly represents the disclosures of the patents in question and has been manifestly manufactured with certain additions, for the purposes of this case without respect to the patents upon which it is alleged to be based.

By Mr. HICKS.—As the model correctly represents the McVeety & Ford structure with the addition of the tin funnel at the small end, it seems unnecessary to mutilate the exhibit model by removing the small end from it.

Q. 5. Please refer to U. S. Patents Nos. 453,798 of June 9, 1891, to Gersdorff and No. 491,421 of Feb. 7, 1893, also to Gersdorff, and state whether you have made a model of the funnel shown and described in those two patents?

A. This is the one we made to correspond with Patent No. 491,421, and 453,798.

By Mr. HICKS.—The model produced by the witness is offered in evidence and marked “Defendant’s Exhibit, Model of Funnel or Horn Shown in the Gersdorff U. S. Patents, made of Three Sections, Frank Z. Demarest, Examiner.”

By Mr. DUNCAN.—Objected to as not correctly representing the structure of the patents referred to.

Q. 6. In Gersdorff Patent No. 453,798, p. 1, lines

(Deposition of William A. Lawrence.)

30-32 and in Gersdorff Patent No. 491,421, p. 1, line 36, it is said that the funnel may consist of two, three or more sections. Have you made a funnel in accordance with those two Gersdorff Patents, consisting of more than two sections?

A. We have. I here produce it.

By Mr. HICKS.—The funnel or horn produced by the witness is [507] offered in evidence and marked "Defendant's Exhibit Model of Funnel or Horn Shown in the Gersdorff U. S. Patents, Made of Eight Sections, Frank Z. Demarest, Examiner."

By Mr. DUNCAN.—Same objection.

Q. 7. Have you made a model of a horn for phonographs, according to French Patent No. 318,742 of Feb. 17, 1902, to Turpin, according to Figs. 8, 9, 10, 11, 12, 13, 14, 15 and 16 thereof, and the description of those figures set forth in the translation of the specification of the Turpin French Patent?

A. We have. I here produce it.

Q. 8. Of what metal is the cone at the small end of the model made?

A. Made of sheet tin.

Q. 9. Of what material are the twelve ribs, which are riveted over the meeting edges of the twelve sections composing the horn, made?

A. Made of light-weight sheet tin cut in strips.

Q. 10. The horn appears to have two of its tapering sections made of the same light-weight tin, these tin sections being upon opposite sides of the horn. Of what material are the remaining ten sections of the horn made?

(Deposition of William A. Lawrence.)

A. Made of cardboard.

Q. 11. Why did you use cardboard instead of wood, the material described in the patent?

A. We used cardboard because it was more convenient to cut up and the patent reads it can be made of wood, glass, or metal. We substituted cardboard for the wood.

By Mr. HICKS.—The horn produced by the witness is offered in evidence and marked "Defendant's Exhibit, Model of Horn Made in Accordance with Fig. 14 and the Description of Turpin's French Patent No. 318,742 of Feb. 17, 1902, Frank Z. Demarest, Examiner."

By Mr. DUNCAN.—Objected to as not correctly representing the structure referred to in the patent.

Q. 12. Was any threat ever made against the Standard Metal Mfg. Co. under the Nielsen Patent No. 771,441 of October 4, 1904?

A. Yes, there was.

Q. 13. Please state when the threat was made, who made it and the circumstances connected therewith.

A. I think it was in the forepart of 1905 by Mr. Krabbe, calling on [508] myself, either at the factory or at 10 Warren St., here in the city of New York. He claimed to have bought or invented the horn, I have forgotten which, and stated that we must stop making horns at that time or he would sue us.

Q. 14. What type of horns did he refer to?

A. The flower shape, morning-glory horn.

Q. 15. Is Mr. Krabbe present now in this room?

A. Yes, sir.

(Deposition of William A. Lawrence.)

Q. 16. Is his full name Christian Krabbe?

A. I believe it is.

Q. 17. Did he say that he represented any company?

A. It is so long ago that I do not remember whether he did or not.

Q. 18. Did he mention the U. S. Horn Co.?

A. I don't remember that part of it.

Q. 19. When did your company begin to manufacture the so-called flower horn?

A. In the fall of 1904 or the spring of 1905.

Q. 20. Was any suit ever brought against your company on the said Nielsen Patent, No. 771,441?

A. I never heard of it.

Q. 21. With the exception of this suit, in which you are testifying, did you ever hear of any suit brought against anyone on the said Nielsen Patent, alleging infringement of the patent by the so-called flower horns?

By Mr. DUNCAN.—Objected to as immaterial.

A. I think I heard of one against a man by the name of Senne, I think it was.

Q. 22. Did you ever hear of any other?

By Mr. DUNCAN.—Same objection.

A. No.

Q. 23. Did you ever have any dealings with the Searchlight Horn Co., the complainant in this suit?

A. Yes.

By Mr. DUNCAN.—Objected to as irrelevant and immaterial and not within the issues raised by the pleadings.

(Deposition of William A. Lawrence.)

Q. 24. When? A. In the spring of 1908.

Q. 25. What was the result of those transactions between your company and the Searchlight Horn Co.?

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By Mr. DUNCAN.—Objected to as calling for incompetent proof and conclusions and on the ground stated in the last objection.

By Mr. HICKS.—In view of the technical character of the objection the question is withdrawn.

Q. 26. Please state what was done under the negotiations between your company and the Searchlight Horn Co. in the spring of 1908?

By Mr. DUNCAN.—Same objection.

A. We made arrangements, that is, the Standard Metal Mfg. Co. with the Searchlight Horn Co., to take over their plant, machines or presses, tools and a portion of the stock to manufacture a folding horn on a profit-sharing basis.

By Mr. DUNCAN.—Answer objected to as incompetent and secondary unless it be shown that the arrangements referred to were oral and not in writing in which latter case the written agreement is the only competent proof.

By Mr. HICKS.—Plaintiff's counsel entirely misunderstands the nature of the present question which asks the witness to state the things done and not the contents of any agreement.

By Mr. DUNCAN.—Complainant's counsel fails to see how any of the transactions inquired about are within any of the issues of this case and until the bearing of these questions is made plain, feels it

(Deposition of William A. Lawrence.)

proper to interpose the usual objections to questions calling for transactions which are set forth in written documents or in other evidence of better nature than that of the testimony of the witness alone.

Q. 27. Did the Searchlight Horn Co. in the spring of 1898 turn over to you any horns for phonographs?

A. Yes, it did.

Q. 28. How many different kinds did the Searchlight Horn Co. turn over to your company?

By Mr. DUNCAN.—Objected to as irrelevant and immaterial.

A. Two.

Q. 29. Have you produced a sample of each kind of horn that the Searchlight Horn Co. turned over to your company in the spring of 1898?

A. Yes, I produce them in evidence.,

Q. 30. One of them is a blue folding horn marked "Searchlight Horn, U. S. Pat. Oct. 4, 1904; January 30th, 1906. Searchlight Horn Co., Brooklyn, [510] N. Y." Was that label on this blue folding horn at the time this horn was turned over to your company by the Searchlight Horn Co. in the spring of 1908?

By Mr. DUNCAN.—Objected to on the ground stated to Q. 23.

A. It was.

Q. 31. October 4, 1904, is the date of the Nielsen Patent here in suit. Do you know to whom the patent was issued, the date of which was January, 1906.

By Mr. DUNCAN.—Same objection.

A. I do not.

By Mr. HICKS.—Defendant offers in evidence

(Deposition of William A. Lawrence.)

Reissue Patent, No. 12,442 of January 30, 1906, to Villy. The horn produced by the witness is offered in evidence and marked "Defendant's Exhibit, Searchlight Horn Co.'s Folding Horn put out under the Nielsen and Villy Reissue Patents, Frank Z. Demarest, Examiner."

By Mr. DUNCAN.—Objected to as irrelevant and immaterial and not within the issues of this case.

Q. 32. The other horn produced by you is also a blue horn and is composed of four corrugated sections and a small funnel at the small end of the horn. Did the Searchlight Horn Company, in the spring of 1908, have any other style of horn upon the market, to your knowledge other than the two horns that you have produced?

A. Not to my knowledge.

By Mr. DUNCAN.—Objected to as irrelevant and immaterial.

Q. 33. How many of these two styles of horns did the Searchlight Horn Company turn over to your company in the spring of 1908?

By Mr. DUNCAN.—Same objection.

A. I don't remember; I should judge somewhere around 100 or 150, all together, principally the folding horn.

By Mr. HICKS.—The second horn produced by the witness, if offered in evidence and marked "Defendant's Exhibit, Searchlight Horn Co.'s 4-strip Corrugated Horn, Frank Z. Demarest, Examiner."

By Mr. DUNCAN.—Same objection. [511]

Q. 34. Did your company manufacture any horns

(Deposition of William A. Lawrence.)

of either of these two types, turned over to you by the Searchlight Horn Co.?

By Mr. DUNCAN.—Same objection.

A. No.

Q. 35. Did your company sell any of the horns turned over to you by the Searchlight Horn Co. in the spring of 1908? A. A few.

Q. 36. What proportion?

By Mr. DUNCAN.—Same objection.

A. About twenty-five.

Q. 37. Have you constructed a horn in accordance with Q. 20-29 of the testimony of Frank H. Stewart, given in this suit?

A. I here produce a horn made by me in accordance with the said testimony of Mr. Stewart.

By Mr. HICKS.—The horn produced by the witness is offered in evidence and marked "Defendant's Exhibit, Model of Hawthorne & Sheble's Aluminum Horn made by Mr. Lawrence from the Testimony of Frank H. Stewart, Frank Z. Demarest, Examiner."

By Mr. DUNCAN.—The exhibit is objected to as not correctly representing the structure in the question referred to.

Adjourned to Thursday, Oct. 2, 1913, at 3:15 P. M. same place.

October 1, 1913.

Met pursuant to adjournment.

Present: Counsel as before.

WILLIAM A. LAWRENCE resumes the stand.

Cross-examination by Mr. DUNCAN.

XQ. 38. How long have you been connected with

(Deposition of William A. Lawrence.)

the Standard Metal Co., and in what capacity?

A. Eleven years this spring; as president and treasurer of the company.

XQ. 39. Since your company began the manufacture of the so-called flower horn in the spring of 1905 or the fall of 1904 as stated by you in your answer to Q. 19 has your company manufactured and sold a large number of those horns?

A. Yes. [512]

XQ. 40. Have you manufactured and sold such horns for any of the large phonograph or talking-machine companies and if so, which?

A. Yes, we have to the Edison Phonograph Company, Victor Talking Machine Company and a few to the Columbia Co. and the U. S. Phonograph Co., Universal Talking Machine Co. and several smaller concerns.

XQ. 41. Did you know at the time you were asked to make the models that you have produced and put in evidence that this suit was pending against the Pacific Phonograph Co. and Babson Bros.?

A. Yes, I did.

XQ. 42. Had you been told that the Searchlight Horn Co. was bringing this and possibly other suits under the Nielsen Patent No. 771,441? A. Yes.

XQ. 43. Do you wish to intimate from any of the testimony you gave on your direct examination in regard to transactions between your Co. and the Searchlight Horn Co. that the flower horns that you say you made for the Phonograph and Talking Machine Companies named in one of your recent

(Deposition of William A. Lawrence.)

answers were made under any license or with any permission from the Searchlight Horn Co.?

By Mr. HICKS.—Objected to as calling for a conclusion of law.

By COMPLAINANT'S COUNSEL.—This question is asked because the purpose or relevancy of the questions asked by complainant's counsel on this direct examination of this witness in regard to the transactions referred to is not apparent.

A. I know of no arrangement made or any license for manufacturing any of the horns in question.

XQ. 44. Did you have placed before you any explanations, suggestions, or instructions in connection with the manufacture of the models that you produced and put in evidence other than the patents that you referred to in connection with these models? And if so, who gave you any suggestions, instructions or explanations?

A. In addition to the papers which were the patents and translation of the French patent this letter was given to carry out the instructions, [513] dated Sept. 15th, 1913, written by Mr. Louis Hicks.

XQ. 45. Did you know, when you made these exhibits, that they were intended for use in a suit brought under the Nielsen Patent? A. Yes.

XQ. 46. How did you know what size to make the exhibits in question?

A. I followed the instructions of the letter.